

**Interstate 95 and Pioneer Trail
Interchange Justification Report
Volusia County, FL**

Florida Department of Transportation, District Five

April 2017

Interchange Justification Report (IJR)



i-95 at Pioneer Trail
FPID: N/A

Determination of Engineering and Operational Acceptability

Acceptance of this document indicates successful completion of the review and the Interchange Access Request is considered acceptable for engineering and operations. Approval is contingent upon compliance with applicable Federal requirements, specifically the National Environmental Policy Act (NEPA) or Department Project Development and Environment (PD&E) Procedures. Completion of the NEPA/PD&E process is considered acceptance of the general project location and concepts described in the environmental document.


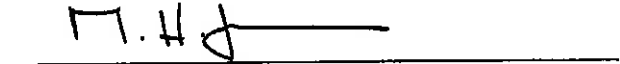
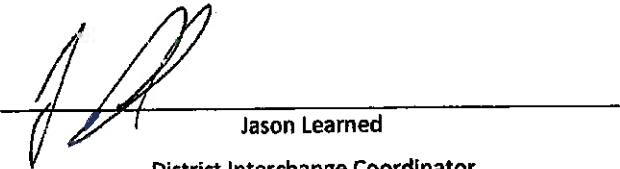
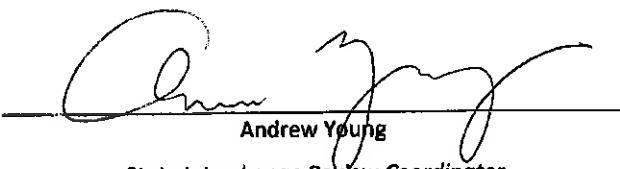
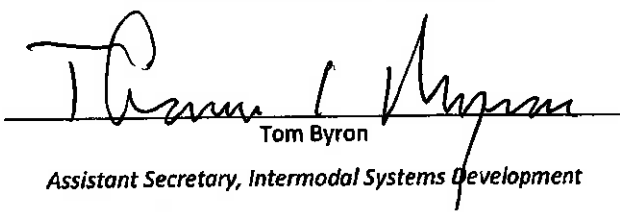
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EXECUTIVE SUMMARY

The purpose of this Interchange Justification Report (IJR) is to document the potential benefits and impacts of a proposed interchange on Interstate 95 (I-95) at Pioneer Trail (CR 4118) near Milepost (MP) 19.032 located in Volusia County, Florida. The proposed interchange is located between two existing interchanges on I-95 with SR 421 at MP 23.300 to the north and with SR 44 at MP 16.287 to the south. **Figure E-1** shows the location of the proposed interchange.

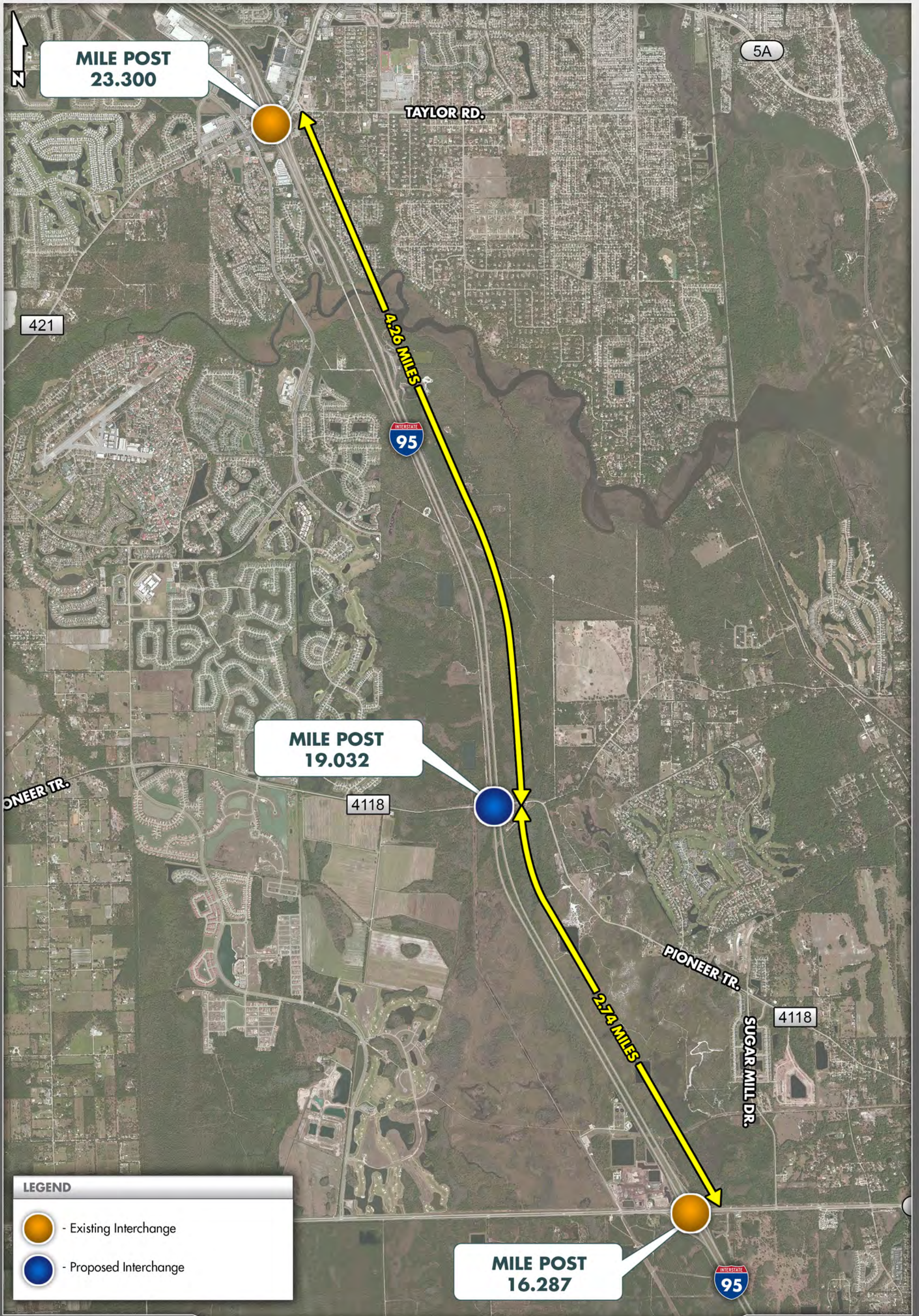
The purpose and need for the proposed interchange on I-95 at Pioneer Trail is to support the economic viability and job creation associated with planned and approved future development in the vicinity of the study area, reduce congestion at the adjacent I-95 interchanges, and to better serve regional trips originating in and destined to the study area. Additionally, Volusia County and the cities of Port Orange and New Smyrna Beach have identified benefits to emergency evacuation conditions that would be realized by an interchange on I-95 at Pioneer Trail. **Section 7** of this document includes a summary of key assumptions, findings, and recommendations.

The Federal Highway Administration (FHWA) regulates the addition and modification of access points along the interstate system and has eight policy points that must be addressed before a new interchange is approved. The following summarizes how the proposed interchange on I-95 at Pioneer Trail will satisfy each requirement.

- 1. The need being addressed by the request cannot be adequately satisfied by existing interchanges to the Interstate, and/or local roads and streets in the corridor can neither provide the desired access, nor can they be reasonably improved (such as access control along surface streets, improving traffic control, modifying ramp terminals and intersections, adding turn bays or lengthening storage) to satisfactorily accommodate the design-year traffic demands (23 CFR 625.2(a)).***

Need: Support the Economic Viability and Job Creation Associated with Planned and Approved Future Development

Volusia County envisions significant growth from census year 2010 through the design year 2042. The I-95/Pioneer Trail interchange is included in the Cost Feasible Roadway Projects identified in the 2025 Long Range Transportation Plan (LRTP) and the River to Sea TPO 2035 LRTP Needs Plan. Previous planning efforts in 2005 (the Pioneer Trail Feasibility Study) and 2009 (the SR 421/I-95 Interchange Analysis) supported the need for the I-95/Pioneer Trail interchange. The City of Port Orange and Volusia County have expressed strong local support for the project.



DATE CREATED: 1/28/2015

PROJECT NUMBER: 12-097.01

A specific economic impact analysis of the proposed I-95/Pioneer Trail interchange was conducted to support the interchange justification (see **Appendix A**). The economic analysis utilized the IMPLAN (Impact Analysis for PLANning) model, development assumptions, and local knowledge of the area. The key conclusions of the analysis were by year 2042 construction of the interchange would:

- Add \$2.5 billion of economic impacts to the local economy due to construction;
- Employ nearly 700 construction and construction related workers during the development horizon;
- Support 13,410 permanent jobs; and
- Reach an addition of \$775 million per year of permanent, ongoing impacts from spending associated with new household operations and additional office/retail/hotel employment.

An increased economic efficiency value of \$1,779,687 due to savings in travel time and reductions in pollution during the year 2042 was also identified in the economic analysis.

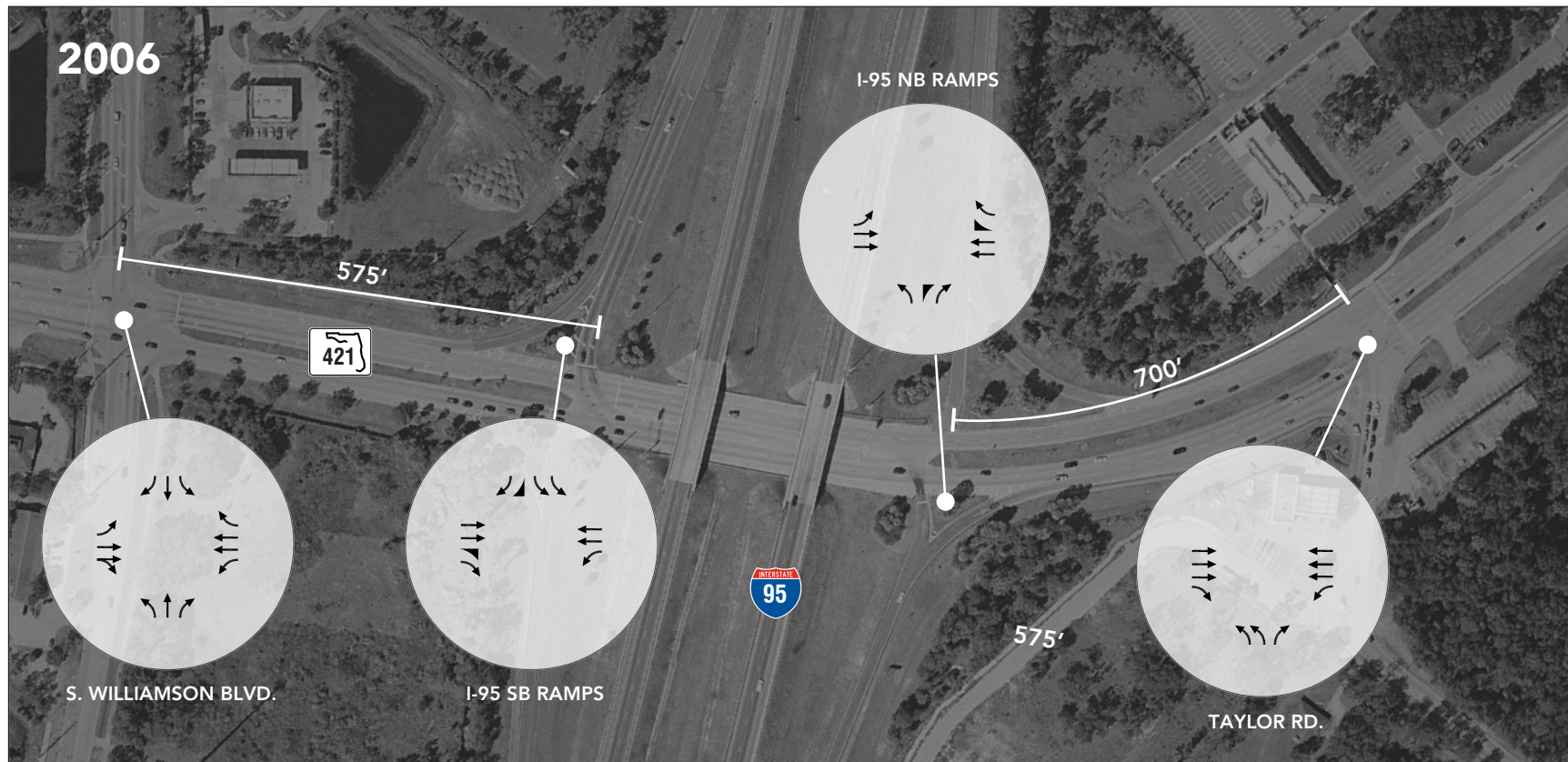
Need: Reduce Congestion Through the I-95/SR 421 Interchange Area

The Florida Department of Transportation (FDOT), the City of Port Orange, and Volusia County have evaluated operating conditions and made improvements to the I-95/SR 421 interchange to address the increase in congestion that has occurred in this area over the years. **Figure E-2** shows the improvements that have been made in the interchange area from 2006 to 2016.

As part of this evaluation several potential roadway and intersection improvement concepts along the SR 421 corridor were evaluated in an attempt to address future operational deficiencies in the interchange area without building the I-95/Pioneer Trail interchange. The presence of Williamson Boulevard approximately 650 feet to the west and Taylor Road less than 700 feet to the east combined with the projected future traffic volumes limits the number of alternatives that can reasonably be implemented.

Table E-1 shows several improvement alternatives that were evaluated in the SR 421 interchange area. It is noted that Alternatives 1 through 4 were previously identified and evaluated as part of the SR 421/I-95 Interchange Analysis, dated January 2009, completed by Kimley-Horn & Associates, Inc. for the City of Port Orange. The 2009 report concluded that while interim improvements could provide some improvement out to 2025, “consideration should be given to providing alternative routes such that vehicles do not need to travel through the SR 421/I-95 interchange area.” The following observations were made based on the table:

FIGURE E-2
I-95 & SR 421 Interchange | Historic Intersection Improvements



IMPROVEMENTS | Completed between 2007-2009

SR 421 at S. Williamson Blvd.

The following lanes were added:

- Eastbound Left
- Eastbound Through
- Northbound Left
- Northbound Through
- Northbound Right
- Westbound Left
- Southbound Through
- Southbound Left

SR 421 at I-95 Southbound Ramps

The following lanes were added:

- Eastbound Through
- Southbound Right
- Constructed to serve vehicles making a westbound left at S. Williamson Blvd.

SR 421 at I-95 Northbound Ramps

The following lanes were added:

- Eastbound Left
- The on-ramp was widened to accommodate the additional left-turn lane; however, the number of lanes at I-95 remained unchanged.
- Eastbound Through
- Northbound Right

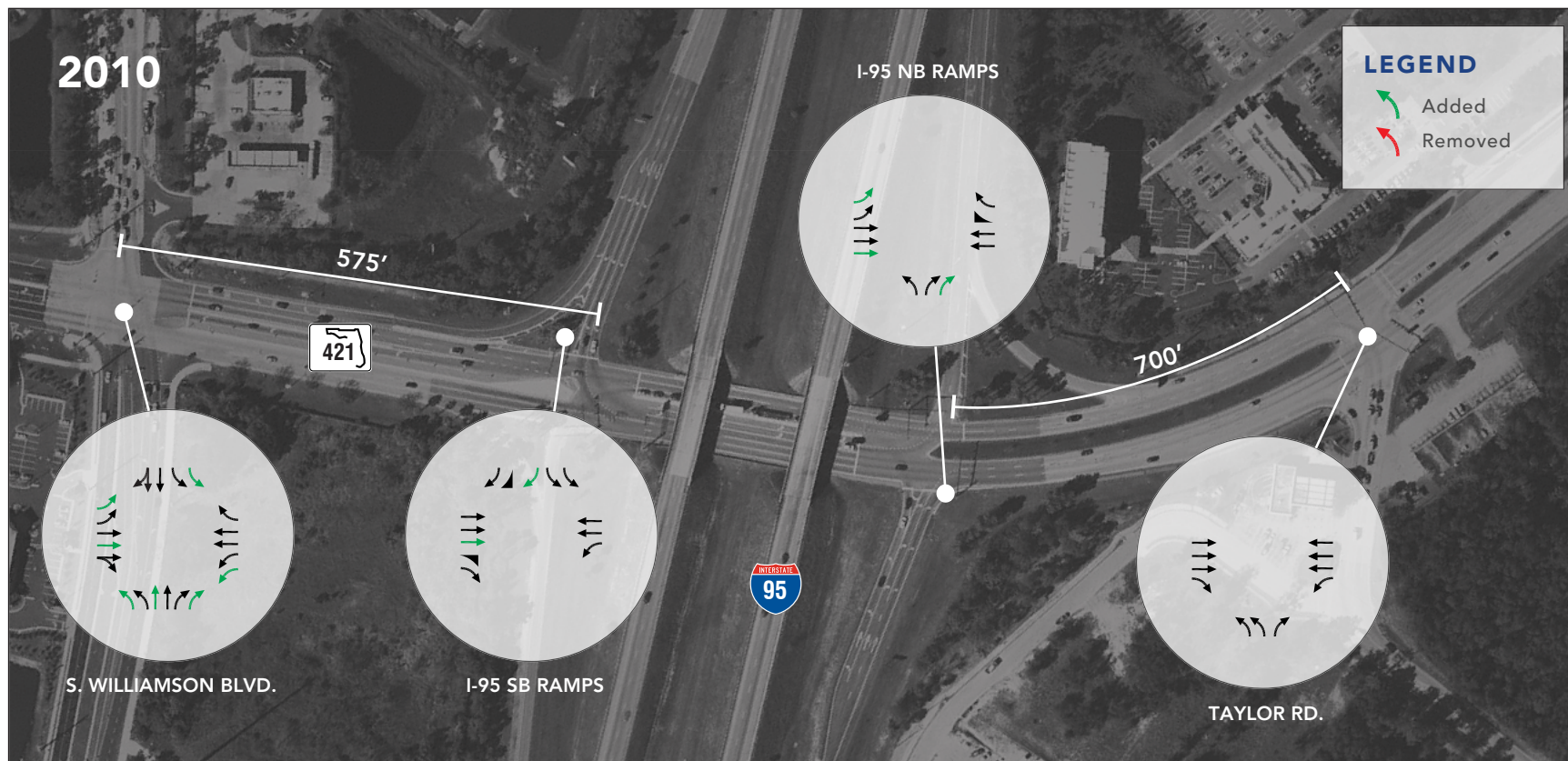
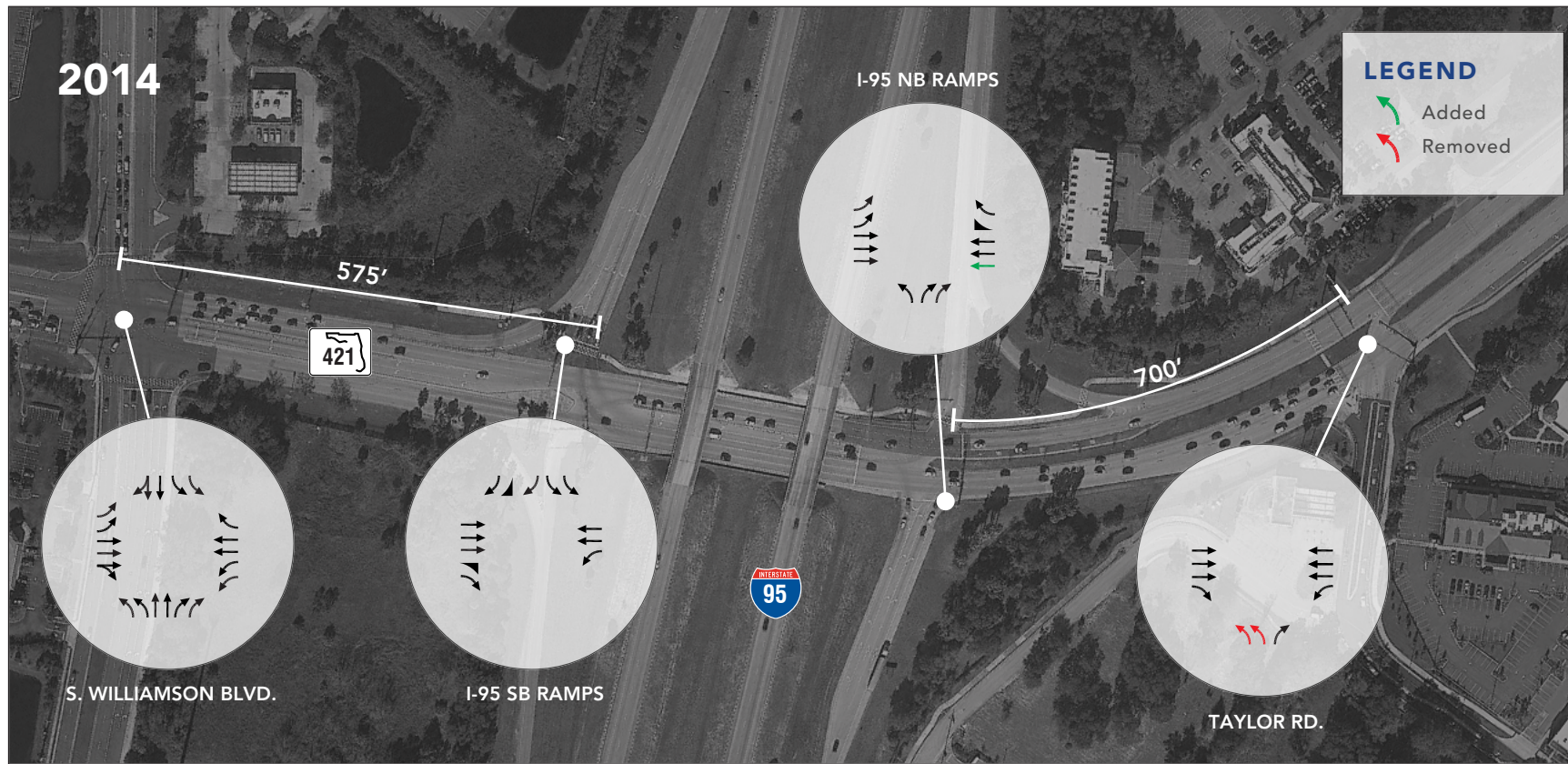


FIGURE E-2
I-95 & SR 421 Interchange | Historic Intersection Improvements



IMPROVEMENTS | Completed between 2012-2013

SR 421 at I-95 Northbound Ramps

- An additional auxiliary westbound through-lane was added. This provides extra queue storage for the westbound left-turn lane at the southbound ramp intersection.

SR 421 at Taylor Rd.

- The full access signalized intersection was reconstructed to eliminate the dual northbound left-turn lanes.
- Only a northbound right-turn movement remains along the Taylor Rd. approach.
- The pedestrian crosswalk was removed from the north leg of the intersection and relocated to the south leg.

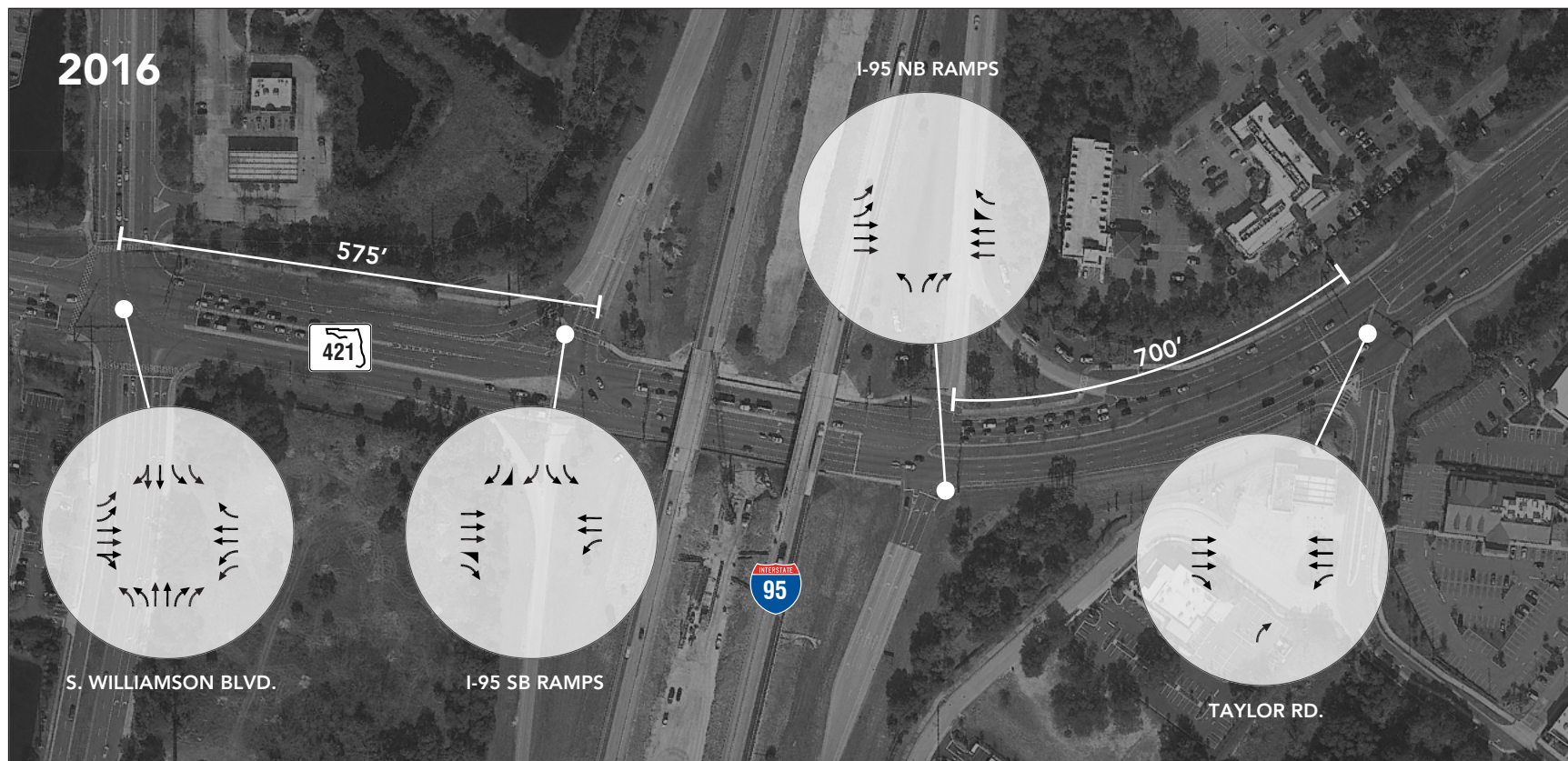


Table E-1: Improvement Alternatives at I-95 at SR 421 Interchange (2042 Design Year)

Alternative	Improvement	Location	Cost	Notes	YR 2042 LOS Assessment								Operational Remarks	
					Time Period	SR 421 at Summer Trees Road		SR 421 at Williamson Boulevard		SR 421 at I-95 SB Ramps		SR 421 at I-95 NB Ramps		
						Delay	LOS	Delay	LOS	Delay	LOS	Delay		LOS
No Build	NA	NA	---		AM Peak	41.2	D	222.2	F	69.7	E	57.6	E	1) The vehicles along the westbound approach of SR 421 & Williamson Boulevard intersection will spill into the I-95 southbound exit ramps. 2) Queues on the southbound and northbound exit ramps are anticipated to spill beyond the available storage. 3) Excessive delays are expected for the westbound left turn and eastbound left turn movements leading into the I-95 entrance ramps.
					PM Peak	53.9	D	194.4	F	85.5	F	49.4	D	
Alternative 1	Add 3rd Southbound Left-Turn Lane	SR 421 & I-95 SB Ramps Intersection	Low	Provides slight operational improvement at SR 421 / I95 SB ramps intersection.	AM Peak	41.2	D	222.3	F	62.6	E	57.9	E	
					PM Peak	53.9	D	194.4	F	77.7	E	49.9	D	
Alternative 2	Restrict EBL and SBR movements	SR 421 & Williamson Boulevard intersection	Low	Reroute these movements to Summer Trees Road. Slight operational improvement at Williamson Boulevard intersection.	AM Peak	53.4	D	203.5	F	69.9	E	57.6	E	
					PM Peak	133.7	F	172.1	F	89.6	F	49.4	D	
Alternative 3	Remove free-flow condition for SB right-turn and signalize all right turn vehicles	SR 421 & I-95 SB Ramps Intersection	Low	No measurable improvement	AM Peak	41.2	D	222.2	F	69.7	E	57.6	E	
					PM Peak	53.9	D	194.4	F	85.5	F	49.4	D	
Alternative 4	Interchange Reconfiguration (includes modifications at SR 421/Williamson)	Interchange	High	This is a heavily reconfigured interchange alternative that was first evaluated in 2009. Requires replacement of the single-span I-95 bridges that are currently under construction as part of the I-95 widening.	AM Peak	53.4	D	183.5	F	33.9	D	45.0	D	
					PM Peak	133.7	F	166.6	F	34.4	C	34.4	C	
Alternative 5	Diverging Diamond Interchange (DDI)	Interchange	Medium	Limits the spacing between Williamson Boulevard & SB ramps intersection. No Operational improvement at the interchange	AM Peak	41.2	D	225.6	F	92.1	F	88.7	F	
					PM Peak	53.9	D	206.6	F	128.1	F	188.5	F	
Alternative 6	Single Point Urban Interchange (SPUI)	Interchange	High	Needs additional Right of Way. Requires replacement of the single-span I-95 bridges that are currently under construction as part of the I-95 widening. Does not alleviate deficiencies at SR 421 & Williamson Boulevard.	AM Peak	44.6	D	218.9	F	47.2 / D				
					PM Peak	53.9	D	195.8	F	52.1 / D				
Construct I-95/Pioneer Trail Interchange					AM Peak			198.3	F	58.2	E	20.5	C	
					PM Peak			174.8	F	72.6	E	23.8	C	

- Alternatives 1, 2, and 3 provide little (alternatives 1 and 2) to no (alternative 3) operational improvements at the interchange ramps and key SR 421/Williamson Boulevard intersection. The alternatives do not provide an alternative connection to reduce the number of vehicles of traveling through the interchange area between Williamson Boulevard and Taylor Road.
- Alternative 5 (diverging diamond interchange) does not provide operational improvements at the interchange ramps and key SR 421/Williamson Boulevard intersection. The close spacing of the SR 421 intersections through the interchange area limits the potential benefits of the configuration. The alternative does not provide an alternative connection I-95 to reduce the number of vehicles of traveling through the interchange area.
- Alternatives 4 and 6 and the construction of the Pioneer Trail interchange provide the most benefit based on the delay and LOS values at the I-95/SR 421 interchange ramp intersections. The benefits shown in Alternatives 4 and 6 are gained by creating additional capacity at the I-95/SR 421 interchange ramp intersections through significant geometric changes. The benefits shown for the I-95/Pioneer Trail interchange are gained by reducing the vehicle demand at the I-95/SR 421 interchange ramp intersections through the provision of the alternative connection being provided at Pioneer Trail. It was determined that the need exists to provide an alternative connection to reduce the number of vehicles traveling through the interchange area.

Reduction in Total Volume Entering the Interchange Area

The total volume entering the SR 421 interchange area in the AM and PM peak hours is reduced in the Build I-95/ Pioneer Trail Interchange alternative. **Table E-2** shows the forecast volume reduction compared to not building the I-95/ Pioneer Trail Interchange. The reduction in volume is expected to improve the operation of the interchange area as compared to the No Build condition.

Table E-2: Comparison of 2042 Total Entering Volumes

SR 421 @	2042 Total Entering Volume				% Reduction in Total Entering Volume	
	No I-95/Pioneer Trail Interchange		Build I-95/ Pioneer Trail Interchange		AM	PM
	AM	PM	AM	PM		
Williamson Blvd	8,373	8,611	7,719	8,322	8%	3%
I-95 SB Ramps	6,355	7,144	5,640	6,591	11%	8%
I-95 NB Ramps	6,881	7,230	6,354	6,729	8%	7%
Taylor Road	6,162	6,786	6,165	6,566	0%	3%

Reduction in Intersection Delay

Table E-3 is a comparison of the No Build alternative and the Build I-95/Pioneer Trail Interchange alternative that shows the forecast delay reductions due to the decreased volumes through the interchange area.

Table E-3: Comparison of 2042 Intersection Delay

SR 421 @	No I-95/ Pioneer Trail Interchange				Build I-95/ Pioneer Trail Interchange				% Reduction in Delay	
	AM		PM		AM		PM		AM	PM
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)		
Williamson Blvd	F	222.2	F	194.4	F	196.3	F	174.8	12%	10%
I-95 SB Ramps	E	69.7	F	85.5	E	58.2	E	72.8	16%	15%
I-95 NB Ramps	E	57.5	D	49.4	C	20.5	C	24.7	64%	50%
Taylor Road	C	27.8	C	34.2	C	22.4	C	22.2	19%	35%

SR 421/Williamson Boulevard Intersection

As shown in Table E-1, the SR 421/Williamson Boulevard intersection is forecast to operate at LOS ‘F’ for the AM and PM peak hours for all the alternatives evaluated. It is likely that the full demand at this intersection would not be served during the peak hour and that the impact of vehicle queues on intersection operations is not being fully quantified using the Highway Capacity Manual methodologies.

The interchange at I-95/Pioneer Trail provides an alternative connection that removes vehicles from the SR 421/Williamson Boulevard intersection. As noted in **Table E-1**, the westbound approach of SR 421 to the Williamson Boulevard intersection is shown to spill back into the intersection of the I-95 southbound ramp. **Table E-4** shows a comparison of the No Build alternative and the Build I-95/Pioneer Trail Interchange alternative.

Table E-4: Impact of Vehicle Diversion on the SR 421(Taylor Road)/Williamson Boulevard Westbound Approach Left-Turn Due to the I-95/Pioneer Trail Interchange (2042)

Alternative	Peak Hour Volume		95th % Queue Of Westbound Left Turn From SR 421 to Williamson Boulevard	
	AM	PM	AM	PM
No Build	632	984	741	882
Build I-95/ Pioneer Trail Interchange	344	905	404	856
Reduction	288 vph (46%)	79 vph (8%)	337 ft (50%)	26 ft (3%)

The following observations were made about the westbound approach of SR 421 to the Williamson Boulevard intersection during the 2042 period:

- The westbound left turn queues are forecast to block the I-95 southbound ramp intersection in all scenarios with the exception of the Build I-95/ Pioneer Trail Interchange AM condition.
- The large volume reduction in the Build I-95/ Pioneer Trail Interchange AM condition improves the queuing condition.
- The smaller volume reduction (as compared to the AM condition) in the Build I-95/ Pioneer Trail Interchange PM condition is the reason why a more significant improvement in the queuing condition is not observed.

- Reducing the volume of vehicles through the critical westbound approach of the SR 421/Williamson Boulevard intersection is expected to improve the operation of the intersection as compared to the No Build condition.

Need: Serve Regional Trips

A regional mobility assessment was conducted to assess the impact the Build I-95/Pioneer Trail Interchange alternative would have on regional connectivity. Based on a select link analysis conducted using the subarea model created for this study, approximately 67 percent of motorists using the northbound on-ramp would travel beyond the SR 421 interchange to the City of Daytona Beach. The select link analysis for the southbound on-ramp movement indicates that approximately 74 percent of the motorists travel beyond the SR 44 interchange. Additionally, 38 percent of the southbound on-ramp movements travel farther south of the SR 442 interchange, which is approximately 10 miles south of the proposed Pioneer Trail interchange, into Brevard County. This analysis implies that the interchange primarily supports longer regional trips versus local trips along I-95. If the Build I-95/Pioneer Trail Interchange alternative is not constructed these trips will need to utilize the already congested I-95/SR 421 interchange and the I-95/SR 44 interchange.

Need: Emergency Evacuation Benefits

Pioneer Trail is a designated evacuation route. The addition of a new interchange at the subject location will improve evacuation efficiency and will serve the coastal residents. The network connectivity of Pioneer Trail with all major corridors in the area provides direct accessibility to I-95 for emergency purposes. Additionally, a new interchange at this location will provide additional regional access to facilitate development of new public evacuation shelters along with the development plans identified in the study area.

- 2. The need being addressed by the request cannot be adequately satisfied by reasonable transportation system management (such as ramp metering, mass transit, and HOV facilities), geometric design, and alternative improvements to the Interstate without the proposed change(s) in access (23 CFR 625.2(a)).***

The FDOT, the City of Port Orange, and Volusia County have utilized transportation system management and geometric design alternatives to improve the operating conditions and extend the life of both the I-95/SR 421 interchange and the I-95/SR 44 interchange. As previously shown in **Figure E-2**, the FDOT, the City of Port Orange, and Volusia County have made improvements to the

I-95/SR 421 interchange to address the increase in congestion that has occurred in this area from 2006 to 2016. The following additional improvement at the SR 421 interchange was also assumed in the analysis of alternatives:

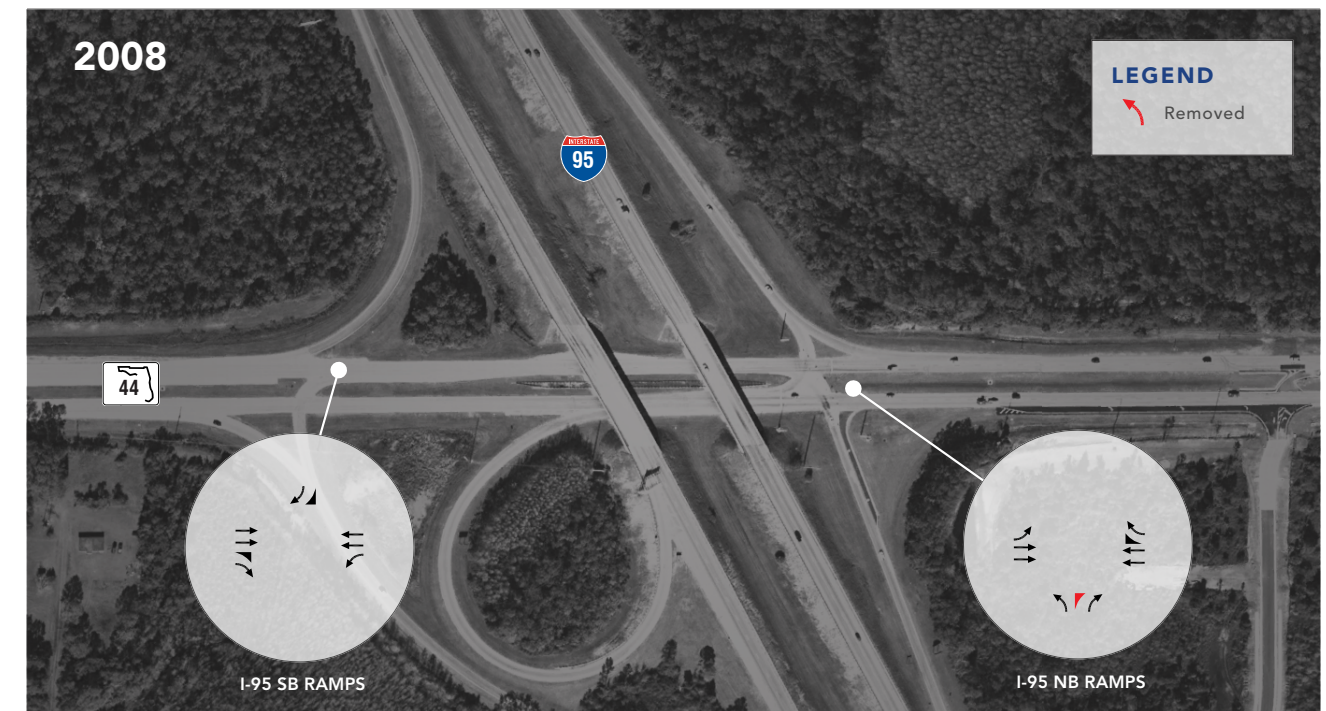
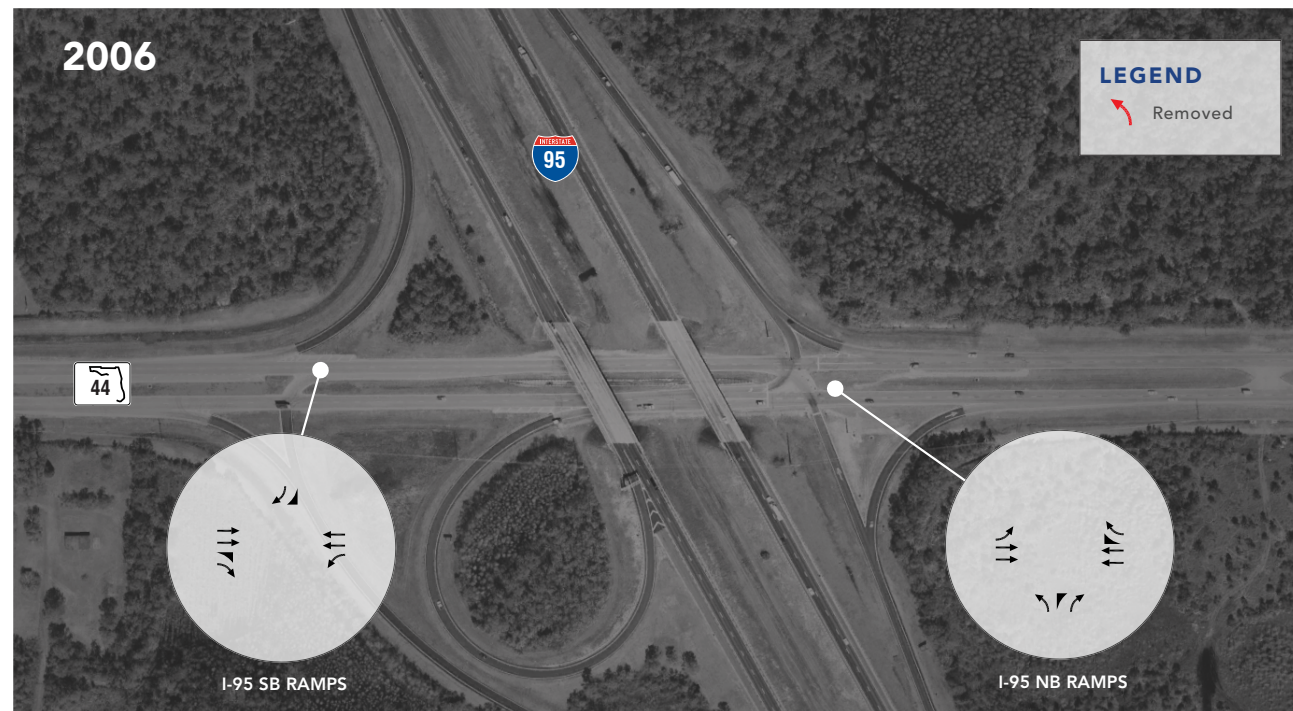
- An additional left turn lane to facilitate westbound SR 421 to southbound I-95 is under construction as part of the I-95 design/build project.

Table E-1 (discussed previously) shows additional alternatives and geometric improvements that were evaluated for the I-95/SR 421 interchange area. The alternatives evaluated do not satisfy the purpose and need for the project.

Figure E-3 shows the improvements that have been made at the I-95/SR 44 interchange to address the increase in congestion that has occurred in this area from 2006 to 2016. It is noted that FDOT District 5 recently completed the SR 44 Corridor Management Plan between Airport Road and South Myrtle Avenue which includes the I-95/SR 44 interchange to address future traffic operational needs along the corridor. The following additional improvements at the SR 44 interchange were assumed in the analysis of alternatives:

- SR 44 and I-95 northbound ramps intersection: additional eastbound left-turn was added during the design year to achieve acceptable level of service;
- Based on the SR 44 Corridor Management Study, the exit lane from southbound to eastbound loop ramp is extended downstream approximately 1,500 feet to provide free flow operation. The southbound to westbound ramp intersection is signalized. These improvements were implemented for the design year; and
- SR 44 and Williamson Boulevard intersection: additional left-turn lanes were added on the westbound, southbound, and northbound approaches to achieve acceptable level of service.

FIGURE E-3
I-95 & SR 44 Interchange | Historic Intersection Improvements



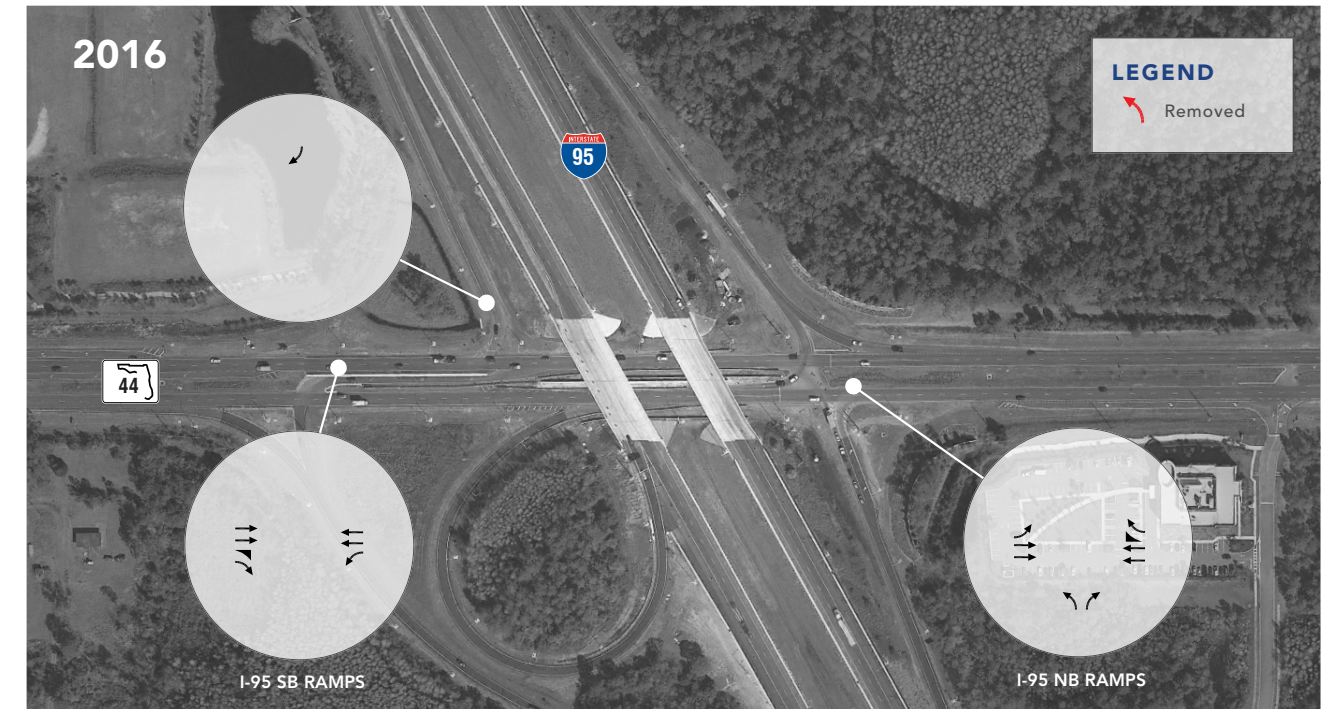
IMPROVEMENTS

- Completed between 2007-2008.
- The channelized northbound right-turn lane was relocated. The right-turn lane was brought under signal control at the intersection, removing the channelization.



IMPROVEMENTS

- Completed between 2012-2013.
- The eastbound left-turn lane was extended at the northbound ramp.



IMPROVEMENTS

- Completed between 2014-2015.
- Southbound off-ramp to westbound SR 44 was shifted east and remains stop-controlled.

It is noted that I-95 is currently being widened from a four-lane to a six-lane facility through the study limits. The construction of the I-95/Pioneer Trail interchange will not cause I-95 to operate below the adopted level of service (LOS) standard. In both the No Build and Build conditions, all freeway segments are estimated to operate at an acceptable LOS D or better in all the analysis years, with the exception of the I-95 segment to the north of SR 421 (projected to operate at LOS E in both conditions). I-95 ramp junctions at SR 421 and at SR 44 are projected to have reduced traffic congestion (as measured in density levels) in the Build condition, thus relieving congestion from both interchanges.

As part of transportation system management, the River to Sea TPO has identified several plans to improve the Votran public transit system in the 2035 LRTP. Congestion management strategies such as guaranteed ride home programs, promoting transit oriented developments, and improving bicycle and pedestrian facilities were also included in the LRTP. While these provisions will not address the need for the project, the construction of the I-95/Pioneer Trail interchange will not preclude future implementation of any of these options.

- 3. An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (23 CFR 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, shall be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that [[Page 43745]] the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access must include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request must also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).***

Impacts to I-95 Operations

The construction of the I-95/Pioneer Trail interchange will not cause I-95 to operate below the adopted level of service (LOS) standard. In both the No Build and Build conditions, all freeway segments are estimated to operate at an acceptable LOS D or better in all the analysis years, with the exception of the I-95 segment to the north of SR 421 (projected to operate at LOS E in both

conditions). I-95 ramp junctions at SR 421 and at SR 44 are projected to have reduced traffic congestion (as measured in density levels) in the Build condition, thus relieving congestion from both interchanges.

The I-95/SR 44 interchange ramp termini intersections operate at LOS D or better in the design year for the Build condition which is one level improvement in LOS over the No Build condition. The I-95/SR 421 interchange ramp termini intersections operate at the same LOS or at a better LOS than the No Build Condition.

Impacts to I-95 Safety

Several safety issues were identified in the review of historical crash data. The following projects (not associated with the potential I-95/Pioneer Trail interchange) have been identified by the FDOT to improve the safety conditions of I-95 and the interchange areas:

- The ongoing I-95 design-build project provides additional capacity and improved geometry to mitigate the high incidence of crashes on I-95 to the north of SR 421 interchange. As part of the design-build project, the northbound on-ramp will be extended and the existing horizontal curve along I-95 to the north of SR 421 interchange will be modified to improve sight line and reduce conflicts between the mainline and merging traffic.
- The proposed I-95/SR 44 southbound loop ramp lane extension proposed as part of the SR 44 Corridor Management Plan Study and the improved traffic control for the southbound exit ramp is expected to mitigate the high number of crashes at this interchange.
- Improvements consisting of extending the deceleration and acceleration lengths and improving the southbound exit loop ramp are being implemented at the I-95/SR 44 interchange.
- The I-95 southbound exit ramp at the SR 44 interchange was recently brought under stop control from a yield condition to address the high number of rear end crashes occurring on the ramp terminal.

A predictive crash analysis based on Highway Safety Manual (HSM) methodologies and utilizing the ISATe software was conducted to forecast the future safety performance of the No Build and the I-95/Pioneer Trail interchange Build alternative. Based on the results of the HSM safety analysis the construction of the I-95/Pioneer Trail interchange is not expected to have an adverse impact to the safety of the interstate system within the area of influence.

It is noted that the I-95/Pioneer Trail interchange will be designed to meet or exceed current standards.

- 4. The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access for managed lanes (e.g., transit, HOVs, HOT lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a) (2), and 655.603(d)).**

The proposed interchange will connect to Pioneer Trail which is a public roadway, supporting a public benefit. Pioneer Trail will be widened from two lanes to four lanes between Williamson Boulevard and Turnbull Bay Road. Both Build Alternatives evaluated in this IJR will provide full traffic movements. It is noted that the proposed interchange will be reviewed in accordance with the design standards through the FDOT Project Development and Environmental (PD&E) process as well as the Department's design phase.

- 5. The proposal considers and is consistent with local and regional land use and transportation plans. Prior to receiving final approval, all requests for new or revised access must be included in an adopted Metropolitan Transportation Plan, in the adopted Statewide or Metropolitan Transportation Improvement Program (STIP or TIP), and the Congestion Management Process within transportation management areas, as appropriate, and as specified in 23 CFR part 450, and the transportation conformity requirements of 40 CFR parts 51 and 93.**

The I-95/Pioneer Trail interchange is included in the Cost Feasible Roadway Projects identified in the 2025 Long Range Transportation Plan (LRTP) and the River to Sea TPO 2035 LRTP Needs Plan. The LRTP will need to be amended to identify funding for construction phase upon acceptance of the interchange justification, prior to National Environmental Policy Act approval. The I-95/Pioneer Trail interchange was added to the River to Sea TPO's draft Planning Studies Priority list at the May 25, 2016 River to Sea TPO board meeting. The formal approval of the final list is expected in the upcoming meeting in June 2016. The PD&E Study for this project is included in the current FDOT Five Year (2016-2021) Work Program in Year 2017. FDOT will also fund the design of the Pioneer Trail interchange. The needed right-of-way for the interchange is anticipated to be acquired from, if not donated by, the property owners surrounding the new interchange.

An interchange at the proposed location is consistent with the Goals and Objectives of the adopted LRTP. More specifically the interchange is consistent with the following Goals and Objectives:

Goal 2: Develop transportation systems that contribute to the economic vitality of the region and ensure that they are designed, located, and constructed in an environmentally sustainable manner.

Objective 2.1 – Consideration shall be given to transportation improvements that support the economic aspirations of the TPO planning area.

Objective 2.4 – The transportation network will consider improvements that support the safe, appropriate and efficient movement of freight via highway, airport and rail systems.

Goal 3: Consider the timing and location of transportation improvements to preserve and enhance existing urban areas and to recognize the development of our future.

Objective 3.1 – Each component of the transportation network shall be planned and designed in coordination with other components, as well as with regards to the surrounding community to enhance existing urban areas and to promote convenience and efficiency.

Objective 3.2 – The River to Sea TPO will develop a LRTP that is consistent with local government comprehensive plans to the maximum extent feasible.

Objective 3.3 – Projects considered for the LRTP will be evaluated based on existing and planned development to ensure support of economic development plans and initiatives.

Objective 3.4 – The LRTP shall include projects that compliment future development activities which minimize travel times and trip distances.

Several other studies were conducted previously assessing the need for the Pioneer Trail interchange. The “Pioneer Trail Feasibility Study” conducted in 2005 and the “SR 421/I-95 Interchange Analysis” study conducted by the City of Port Orange in 2009 concluded that the Pioneer Trail interchange will not have any adverse impacts on mainline operations and would alleviate traffic on the adjacent interchanges. The proposed interchange is also consistent with the adopted Volusia County Comprehensive Plan.

- 6. In corridors where the potential exists for future multiple interchange additions, a comprehensive corridor or network study must accompany all requests for new or revised access with recommendations that address all of the proposed and desired access changes within the context of a longer-range system or network plan (23 U.S.C. 109(d), 23 CFR 625.2(a), 655.603(d), and 771.111).***

There are no other interchange proposals between SR 421 and SR 44 along I-95 identified in the LRTP. The only interchange proposal is at Pioneer Trail.

7. *When a new or revised access point is due to a new, expanded, or substantial change in current or planned future development or land use, requests must demonstrate appropriate coordination has occurred between the development and any proposed transportation system improvements (23 CFR 625.2(a) and 655.603(d)). The request must describe the commitments agreed upon to assure adequate collection and dispersion of the traffic resulting from the development with the adjoining local street network and Interstate access point (23 CFR 625.2(a) and 655.603(d)).*

This IJR was developed in close coordination with Volusia County, the City of Port Orange, and the City of New Smyrna Beach. As part of the development of the IJR, decisions were made about future land use assumptions and the future roadway network needed to support the land use. **Table E-5** shows the planned developments included in the analysis.

Table E-5: Planned Developments in Vicinity of Proposed Interchange

Development	Residential (DU)	Non-Residential (sq. ft)	Hotel (rooms)	Current Build Out %
Farmton DRI	4,692	820,217	0	0%
Restoration DRI	9,866	194,306	0	0%
Gardens 207 PUD	1,250	356,000	98	0%
Regency/Shoppes at Coronado PUD	0	350,000	0	40-60%
Venetian Bay PUD	1,823	110,000	0	40-50%
Hamton Village PUD	1,113	0	0	0%
Verano PUD	190	0	0	0%
Promenade Parke PUD	293	0	0	0%
Woodhaven PUD	1,300	650,000	0	0%
Pavilion at Port Orange DRI	0	800,000	0	40-60%
Planned Community Westside CPA	1,082	490,000	0	40-60%

As previously described, the proposed I-95/Pioneer Trail interchange is included in the Cost Feasible Roadway Projects identified in the 2025 Long Range Transportation Plan (LRTP) and the River to Sea TPO 2035 LRTP Needs Plan. The following roadway changes, included in the LRTP, were assumed in both the future No Build and Build scenarios:

- The widening of I-95 to a 6-lane interstate facility from SR 406 to SR 44 and from SR 44 north to US 92;
- The widening of Pioneer Trail from two lanes to four lanes between Williamson Boulevard and Turnbull Bay Road;
- The extension of Williamson Boulevard as a four-lane divided arterial from Airport Road to Pioneer Trail, the extension of Williamson Boulevard as a two-lane road from Pioneer Trail to SR 44, and the extension of Williamson Boulevard as a two-lane road from SR 44 to SR 442; and
- The widening of Airport Road from two lanes to four lanes between Sabal Creek Boulevard and Pioneer Trail.

A specific economic impact analysis of the proposed I-95/Pioneer Trail interchange was conducted to support the interchange justification (see **Appendix A**). The economic analysis utilized the IMPLAN (Impact Analysis for PLANning) model, development assumptions, and local knowledge of the area. The key conclusions of the analysis were by year 2042 construction of the interchange would:

- Add \$2.5 billion of economic impacts to the local economy due to construction;
- Employ nearly 700 construction and construction related workers during the development horizon;
- Support 13,410 permanent jobs; and
- Reach an addition of \$775 million per year of permanent, ongoing impacts from spending associated with new household operations and additional office/retail/hotel employment.

An increased economic efficiency value of \$1,779,687 due to savings in travel time and reductions in pollution during the year 2042 was also identified in the economic analysis.

8. The proposal can be expected to be included as an alternative in the required environmental evaluation, review and processing. The proposal should include supporting information and current status of the environmental processing (23 CFR 771.111).

Environmental impacts for the proposed interchange will be fully evaluated and documented during the PD&E Study following all procedures and requirements of the National Environmental Policy Act (NEPA). The PD&E Study for this project is included in the current FDOT Five Year (2016-2021) Work Program in Year 2017.

1.0 Introduction

The purpose of this Interchange Justification Report (IJR) is to document the potential benefits and impacts of a proposed interchange on Interstate 95 (I-95) at Pioneer Trail (CR 4118) near Milepost (MP) 19.032 located in Volusia County, Florida. The proposed interchange is located between two existing interchanges on I-95 with SR 421 at MP 23.300 to the north and with SR 44 at MP 16.287 to the south. The IJR is being developed on behalf of Volusia County and the City of Port Orange. The project location and the Area of Influence (AOI) are depicted in **Figure 1-1**.

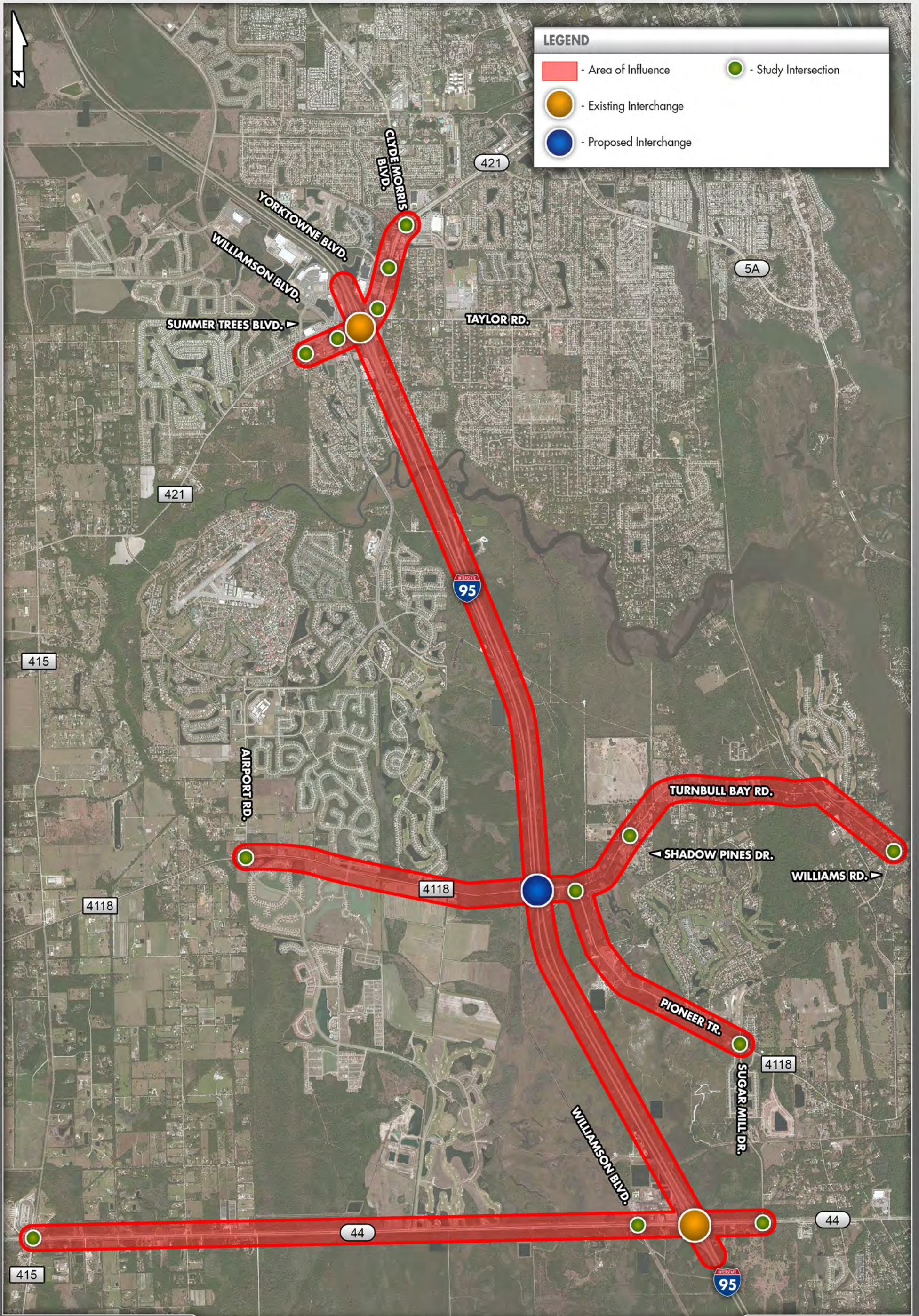
This IJR is developed in accordance with the Florida Department of Transportation (FDOT) Policy No. 000-525-015 Approval of New or Modified Access to Limited Access Highways on the SHS; New or Modified Interchanges, FDOT Procedure No. 525-030-160-K; and the FDOT Project Traffic Forecasting Procedure (Procedure No. 525-030-120).

1.1 Purpose and Need for the project

The purpose and need for the proposed interchange on I-95 at Pioneer Trail in Volusia County, Florida is to support the economic viability and job creation associated with planned and approved future development in the vicinity of the study area, to reduce congestion at the adjacent I-95 interchanges, and to better serve regional trips originating in and destined to the study area. Additionally, Volusia County and the cities of Port Orange and New Smyrna Beach have identified potential benefits to emergency evacuation conditions that would be realized by an interchange on I-95 at Pioneer Trail.

Support the Economic Viability and Job Creation Associated with Planned and Approved Future Development

The long-term planning and commitment to development in the study area is shown in the future land use and roadway network plans of Volusia County, the City of Port Orange and New Smyrna Beach. Significant growth from base year 2010 through the design year of 2042 has been approved and planned for. The City of New Smyrna Beach has annexed all of the land west of I-95 to Airport Road into the city limits. The City also expanded the commercial nodes around the SR 44 interchange for future development ventures.



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A specific economic impact analysis of the proposed I-95/Pioneer Trail interchange was conducted to support the interchange justification (see **Appendix A**). The economic analysis utilized the IMPLAN (Impact Analysis for PLANning) model, development assumptions, and local knowledge of the area. The key conclusions of the analysis were by year 2042 construction of the interchange would:

- Add \$2.5 billion of economic impacts to the local economy due to construction;
- Employ nearly 700 construction and construction related workers during the development horizon;
- Support 13,410 permanent jobs; and
- Reach an addition of \$775 million per year of permanent, ongoing impacts from spending associated with new household operations and additional office/retail/hotel employment.

An increased economic efficiency value of \$1,779,687 due to savings in travel time and reductions in pollution during the year 2042 was also identified in the economic analysis.

In addition to planning the future land use, the future roadway network to accommodate increased trips has been planned. The I-95/Pioneer Trail interchange was included in the Cost Feasible Roadway Projects identified in the 2025 Long Range Transportation Plan (LRTP) and is included in the River to Sea TPO 2035 LRTP Needs Plan. The following roadway changes are in the LRTP:

- The widening of I-95 to a 6-lane interstate facility from SR 406 to SR 44 and from SR 44 north to US 92;
- The widening of Pioneer Trail from two lanes to four lanes between Williamson Boulevard and Turnbull Bay Road;
- The extension of Williamson Boulevard as a four-lane divided arterial from Airport Road to Pioneer Trail, the extension of Williamson Boulevard as a two-lane road from Pioneer Trail to SR 44, and the extension of Williamson Boulevard as a two-lane road from SR 44 to SR 442; and
- The widening of Airport Road from two lanes to four lanes between Sabal Creek Boulevard and Pioneer Trail.

Reduce Congestion at Adjacent Interchanges

The I-95/SR 421 interchange area is forecast to operate at or near capacity with extended queues during the peak hours. The FDOT, Volusia County, and the City of Port Orange have made a series of improvements in this area from 2006 to 2016 to accommodate increasing traffic volumes. The

ability to add capacity in the SR 421 interchange area is constrained due to limited right-of-way and the impact of closely spaced signalized intersections to the west (at Williamson Boulevard) and east (at Taylor Road). Previous studies in the area have identified the need to provide alternative connections to reduce the number of vehicles using the I-95/SR 421 interchange area.

Serve Regional Trips

Pioneer Trail contributes to the regional network and provides direct and in-direct connections to all the major arterials in the surrounding area: SR 421 to the north; US 1 to the east; SR 44 to the south; Tomoka Farms Road to the west; and I-4 via SR 44 to the west. The need exists to provide access to the regional network that does not involve utilizing the already congested I-95/SR 421 interchange and the I-95/SR 44 interchange.

Evacuation Conditions

Pioneer Trail is a designated statewide emergency evacuation corridor. Volusia County and the cities of Port Orange and New Smyrna Beach have stated that the proposed I-95 interchange at Pioneer Trail would serve emergency evacuation during hurricanes and wild fires. Volusia County is considered at medium to high risk for wild fires. For example, in 1998 Volusia and Flagler counties experienced wildfires that burned approximately 137,000 acres, with approximately 29,000 homes threatened and more than 300 homes and business damaged or destroyed in various areas around Volusia County. In 2006 wild fires occurred in the vicinity of Pioneer Trail that resulted in 1,000 homeowners, including those residents along Pioneer Trail and the Sugar Mill subdivision, being ordered to evacuate.

1.2 Methodology

A Methodology Letter of Understanding (MLOU) between FHWA, FDOT, Volusia County, and the City of Port Orange was approved in August of 2014. The analysis procedures and techniques utilized in the preparation of this IJR are documented in the MLOU. All required traffic data for the study was obtained from Florida Traffic Information (FTI 2013) and field collected data between May and June of 2014. This IJR study has been conducted in accordance with FDOT and FHWA's recommended format and has addressed the eight federal requirements, summarized from the Federal Register dated August 27, 2009. The approved MLOU is included in **Appendix B**.

The following years were identified for analysis:

- Existing Conditions 2013;
- Opening year 2022;
- Interim Year 2032; and
- Design year 2042.

The traffic analysis conducted for this study is consistent with the approved MLOU and guidelines provided in the FDOT Traffic Analysis Handbook (2014). Below are the analysis tools identified in the approved MLOU:

- HCM 2010 methodologies for freeway segments, weaving analysis, ramp merge/diverge analysis; and
- Synchro 8.0 methodologies for arterial segments and intersections.

The adopted level of service criteria for the study arterials is consistent with the LOS standards adopted by FDOT for the State Highway System (SHS) and presented in the approved MLOU. **Table 1-1** presents the recommended LOS standards for the study roadways.

Table 1-1: Adopted Level of Service

Roadway	Mainline	Ramps/Intersections
I-95	D	D
SR 421	D	D
SR 44	D	D
Pioneer Trail	E	E

1.3 Interchange Spacing

The FDOT recommended spacing standards for new interchanges are provided in **Table 1-2**. The approximate spacing of the proposed I-95 at Pioneer Trail interchange from the SR 44 interchange to the south and SR 421 interchange to the north are provided in **Table 1-3**. The interchange spacing with the proposed I-95 at Pioneer Trail interchange is illustrated in **Figure 1-2**.

Table 1-2: Interchange Spacing Standards

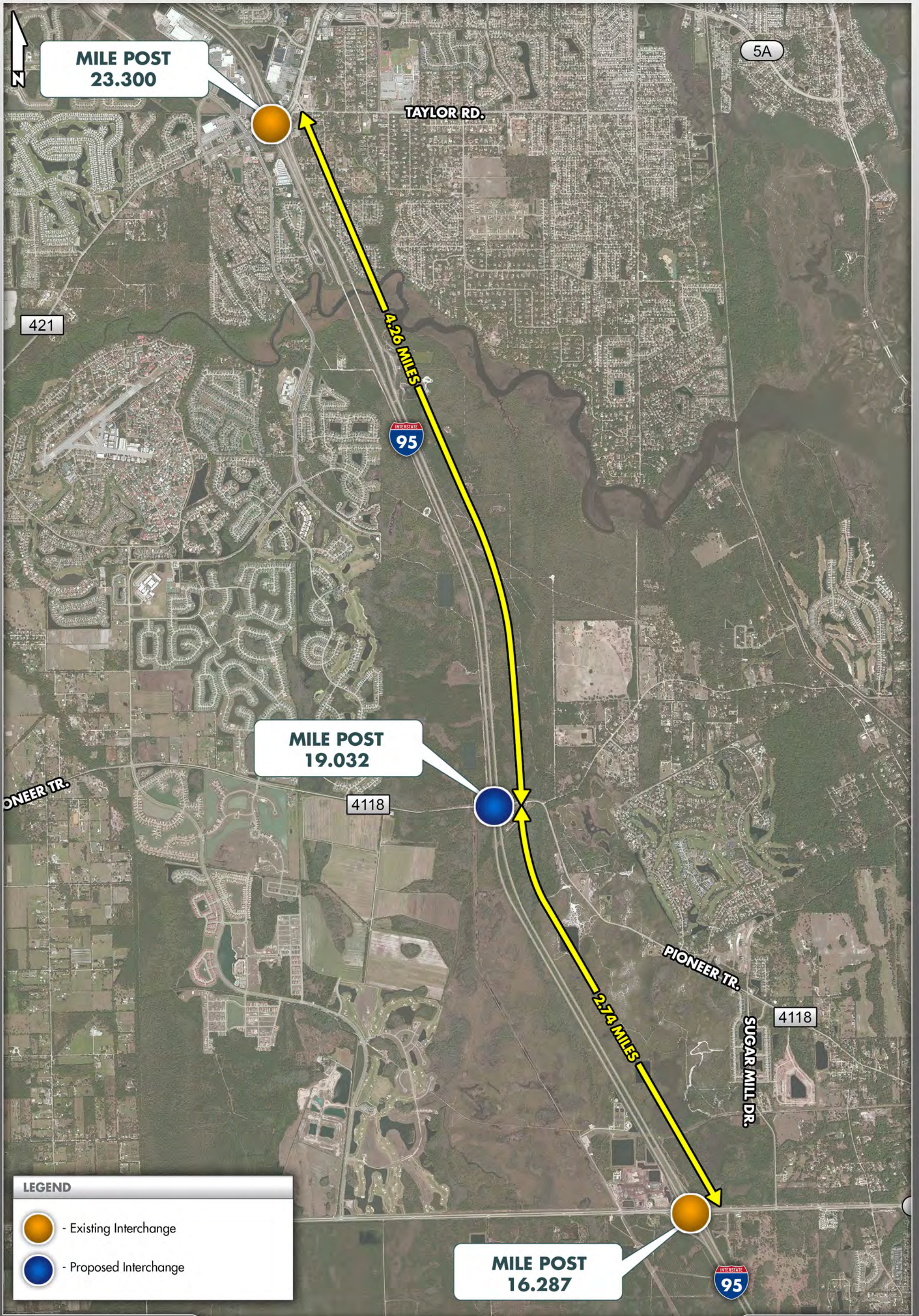
Area Type	Spacing
CBD/CBD Fringe	1 mile
Existing Urbanized Areas	2 miles
Transitioning Urbanized Areas/Urban Areas	3 miles
Rural Areas	6 miles

Source: Rule Chapter 14-97 F.A.C., SHS Access Management Classification System and Standards

Table 1-3: Proposed Interchange Spacing

Location	RCI Milepost	Spacing from Proposed Interchange (Miles)
I-95/SR 44	16.287	2.745
Approximate Location of Proposed Interchange	19.032	---
I-95/SR 421	23.300	4.268

The proposed interchange on I-95 at Pioneer Trail is located within an existing urbanized area with a spacing standard of two miles (see **Table 1-2**) and meets FDOT interchanging spacing standards.



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2.0 Existing Conditions

The project study area roadway network, data collection, and existing conditions analysis are documented in this section. It is noted that existing conditions were considered to be 2013 for this evaluation.

2.1 Existing Roadway Network

The area of influence (AOI) of the study extends to the SR 44 interchange to the south and to the SR 421 interchange to the north. Other roadways within the AOI as shown in **Figure 1-1** include SR 44 from CR 415 to Sugar Mill Drive, Pioneer Trail from Airport Road to Sugar Mill Drive, Turnbull Bay Road from Pioneer Trail to Williams Road, and SR 421 from Summer Trees Boulevard to Clyde Morris Boulevard.

Interstate 95

Interstate 95 (I-95) is functionally classified as an urban principal arterial interstate and is part of Florida's Strategic Intermodal System (SIS). Within the AOI, I-95 is a four-lane median divided limited access facility from south of SR 44 to the north of SR 421. The posted speed limit is 70 miles per hour (mph) within the study area.

SR 44

Within the study area, SR 44 is a four-lane divided rural principal arterial to the west and classified as an urban principal arterial to the east of the study section (MP 22.463 to 25.578). SR 44 extends in an east-west orientation. SR 44 forms a diamond-type interchange with a southbound exit (loop ramp) with I-95 located approximately 2.74 miles south of Pioneer Trail. The posted speed limit varies from 55 mph to 65 mph within the study area.

SR 421/CR 421

SR 421 is a six-lane divided urban principal arterial to the east of Williamson Boulevard and continues west as CR 421. CR 421 is a four-lane divided urban arterial to Summer Trees Road which narrows down further to a two-lane arterial to the west. SR 421 forms a diamond-type interchange with I-95 located approximately 4.26 miles north of Pioneer Trail. The posted speed limit varies between 45 mph to 50 mph within the study area.

Pioneer Trail

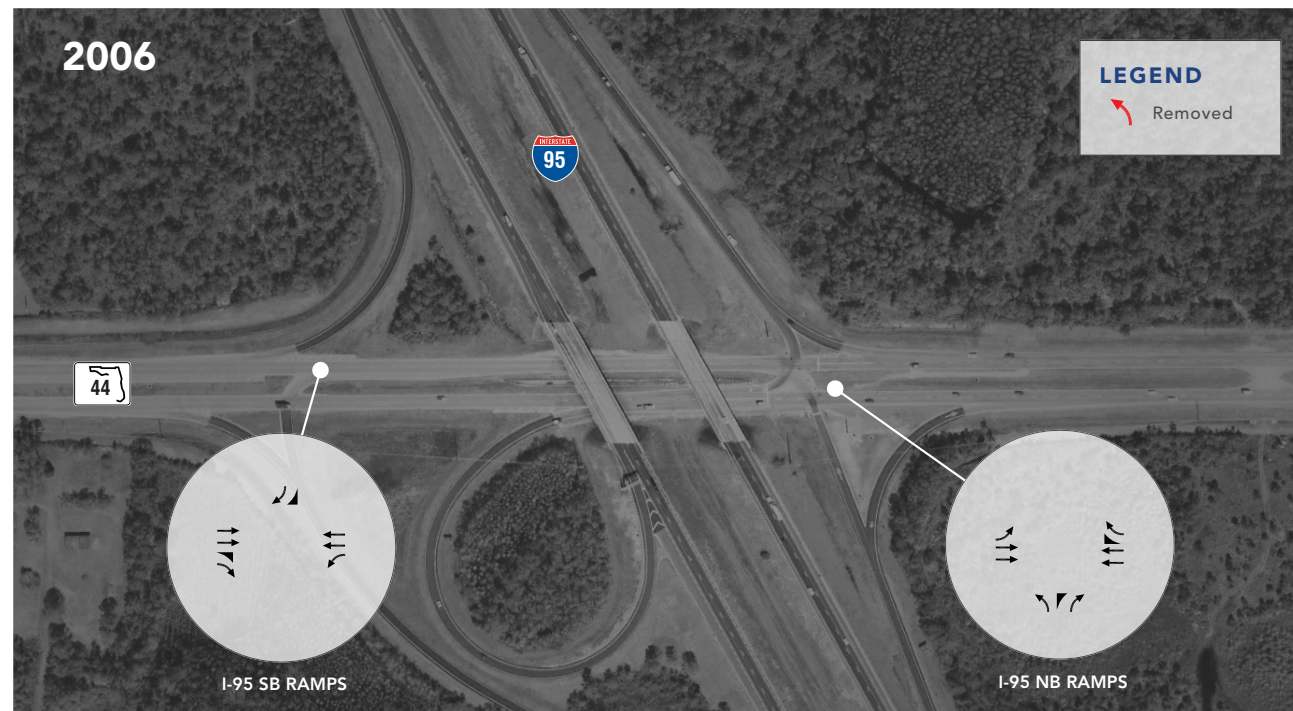
Pioneer Trail is a two-lane undivided urban collector oriented east-west and spans over I-95. To the east of I-95, Pioneer Trail branches into Turnbull Bay Road extending east and Pioneer Trail continuing southeast. Turnbull Bay Road is a two-lane urban collector serving several residential sub divisions.

Interchanges

There are currently two interchanges located along I-95 within the project study area as described below:

- I-95 at SR 44 (Mile Post 16.287) is a diamond-type interchange with a southbound to eastbound SR 44 loop ramp. All ramps feature single lane ramps. The northbound ramp terminal intersection is signalized while both the southbound ramp intersections operate under stop control. The FDOT, the City of New Smyrna Beach, and Volusia County have evaluated operating conditions and made improvements to the I-95/SR 44 interchange to address the increase in congestion that has occurred in this area over the years. **Figure 2-1** shows the improvements that have been made in the interchange area from 2006 to 2016.
- I-95 at SR 421 (Mile Post 23.300) is a diamond-type interchange with single-lane ramps on all four quadrants of the interchange. Both ramp terminal intersections are signalized. The FDOT, the City of Port Orange, and Volusia County have evaluated operating conditions and made improvements to the I-95/SR 421 interchange to address the increase in congestion that has occurred in this area over the years. **Figure 2-2** shows the improvements that have been made in the interchange area from 2006 to 2016.

FIGURE 2-1
I-95 & SR 44 Interchange | Historic Intersection Improvements



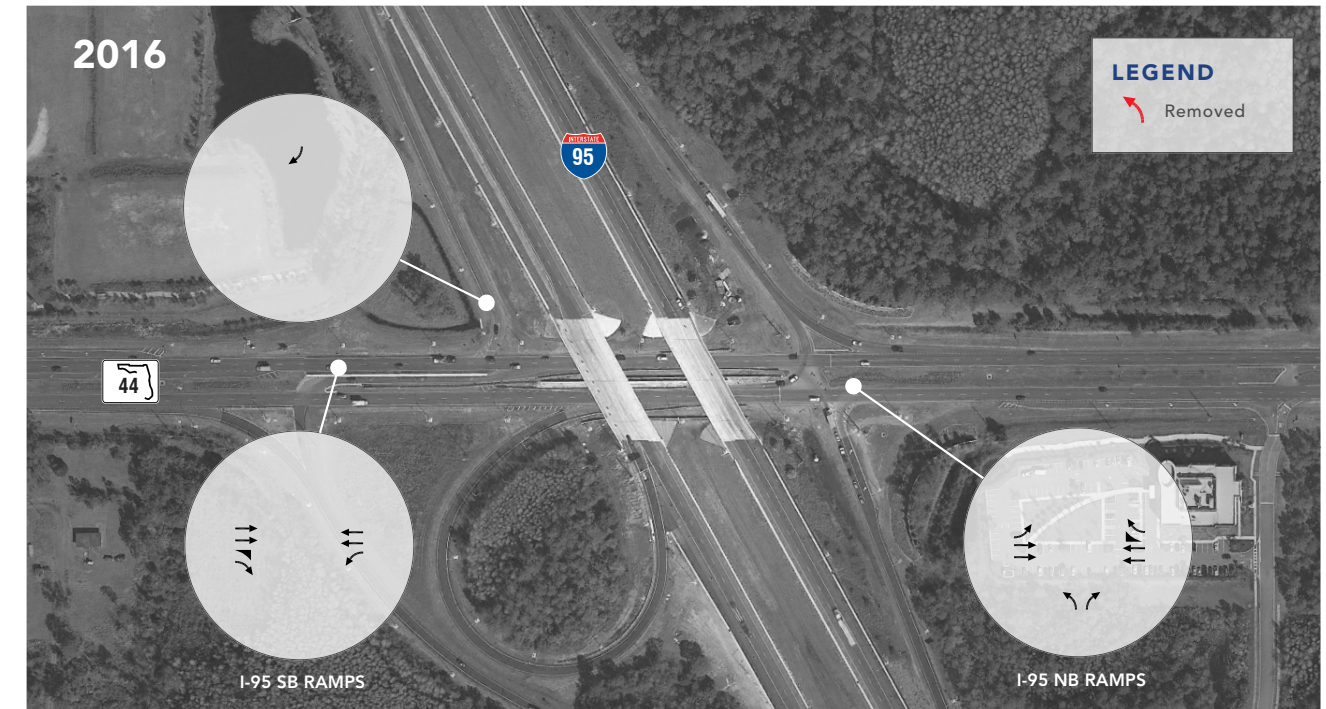
IMPROVEMENTS

- Completed between 2007-2008.
- The channelized northbound right-turn lane was relocated. The right-turn lane was brought under signal control at the intersection, removing the channelization.



IMPROVEMENTS

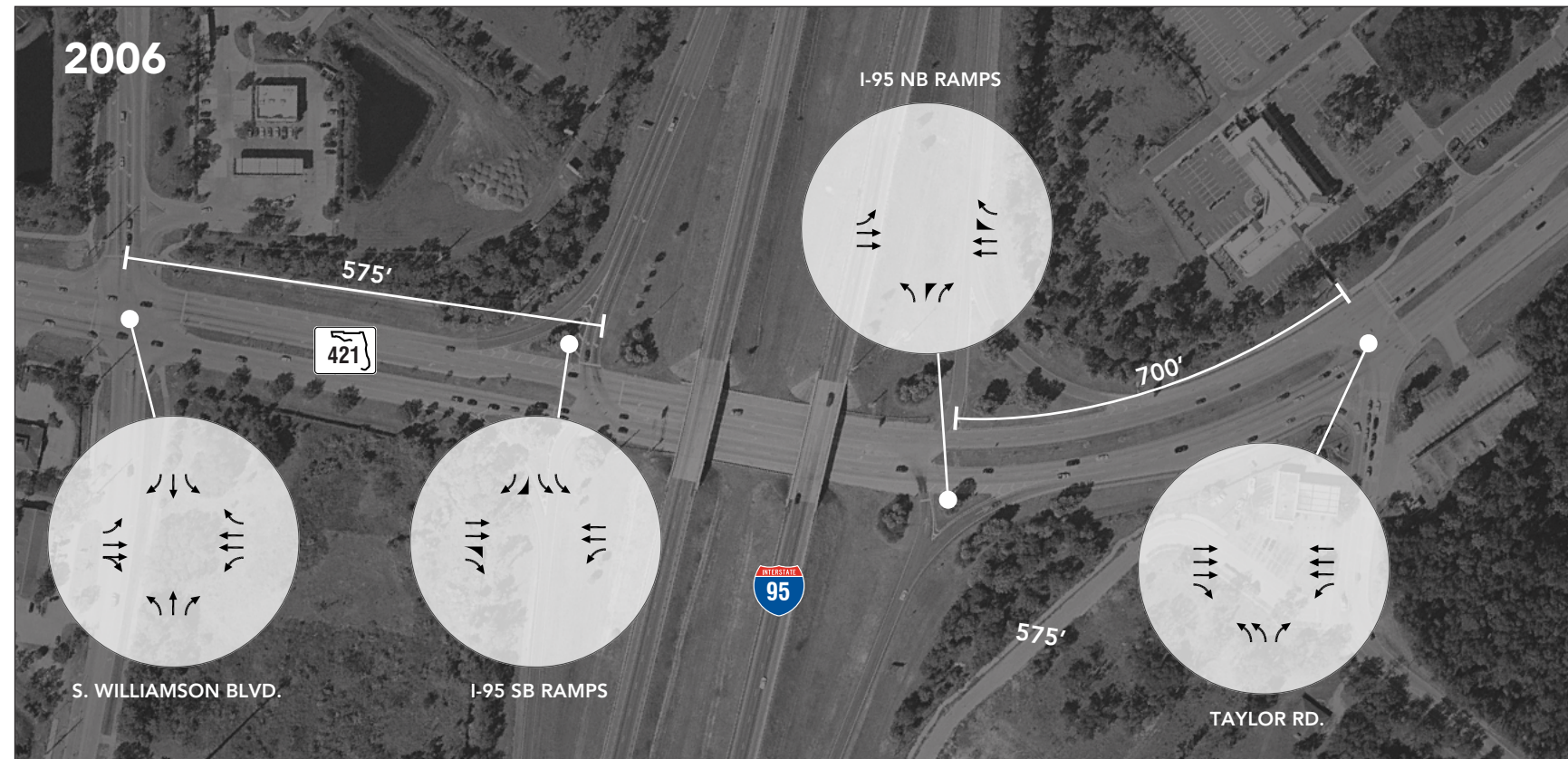
- Completed between 2012-2013.
- The eastbound left-turn lane was extended at the northbound ramp.



IMPROVEMENTS

- Completed between 2014-2015.
- Southbound off-ramp to westbound SR 44 was shifted east and remains stop-controlled.

FIGURE 2-2
I-95 & SR 421 Interchange | Historic Intersection Improvements



IMPROVEMENTS | Completed between 2007-2009

SR 421 at S. Williamson Blvd.

The following lanes were added:

- Eastbound Left
- Eastbound Through
- Northbound Left
- Northbound Through
- Northbound Right
- Westbound Left
- Southbound Through
- Southbound Left

SR 421 at I-95 Southbound Ramps

The following lanes were added:

- Eastbound Through
- Southbound Right
- Constructed to serve vehicles making a westbound left at S. Williamson Blvd.

SR 421 at I-95 Northbound Ramps

The following lanes were added:

- Eastbound Left
- The on-ramp was widened to accommodate the additional left-turn lane; however, the number of lanes at I-95 remained unchanged.
- Eastbound Through
- Northbound Right

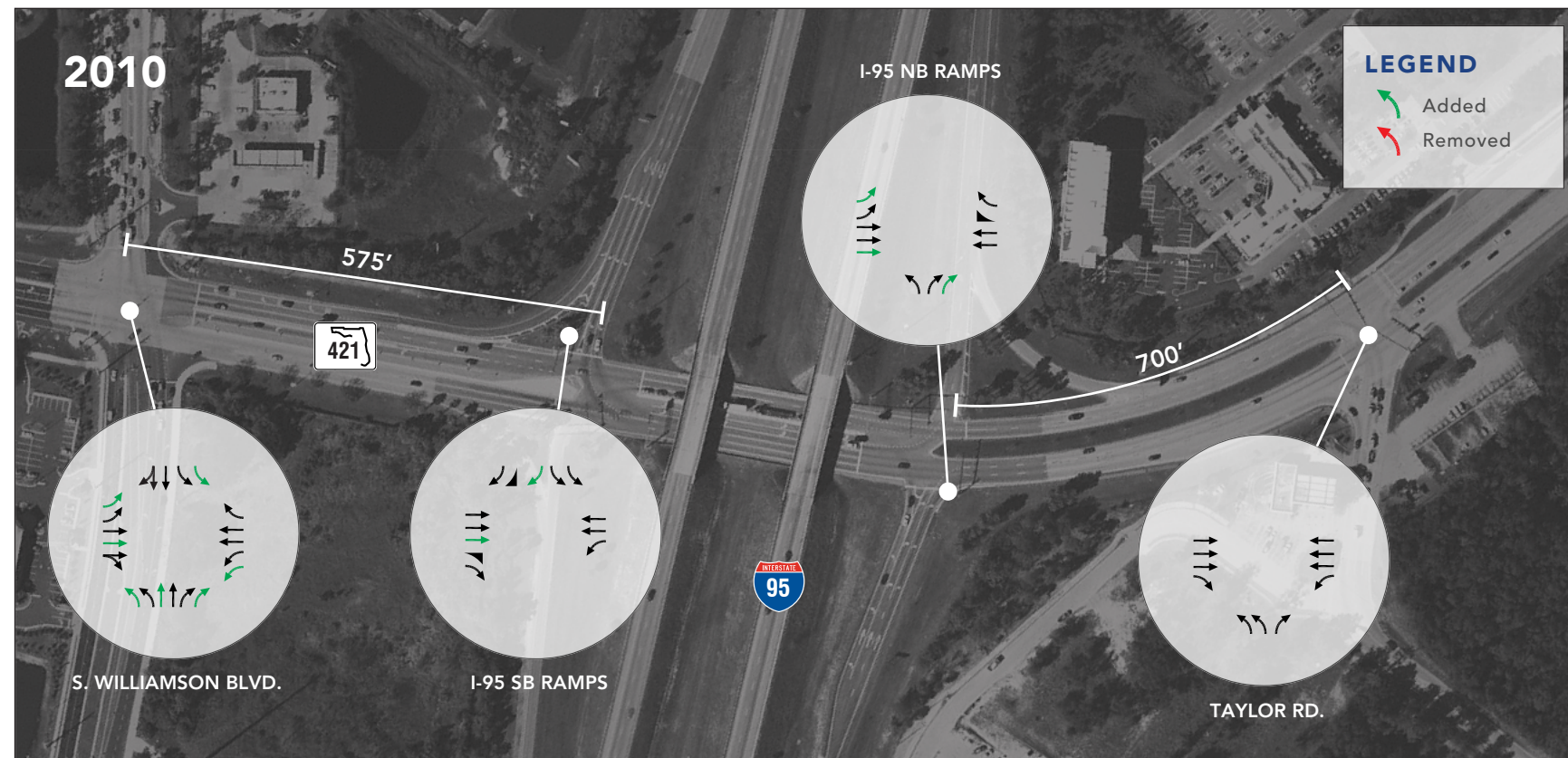
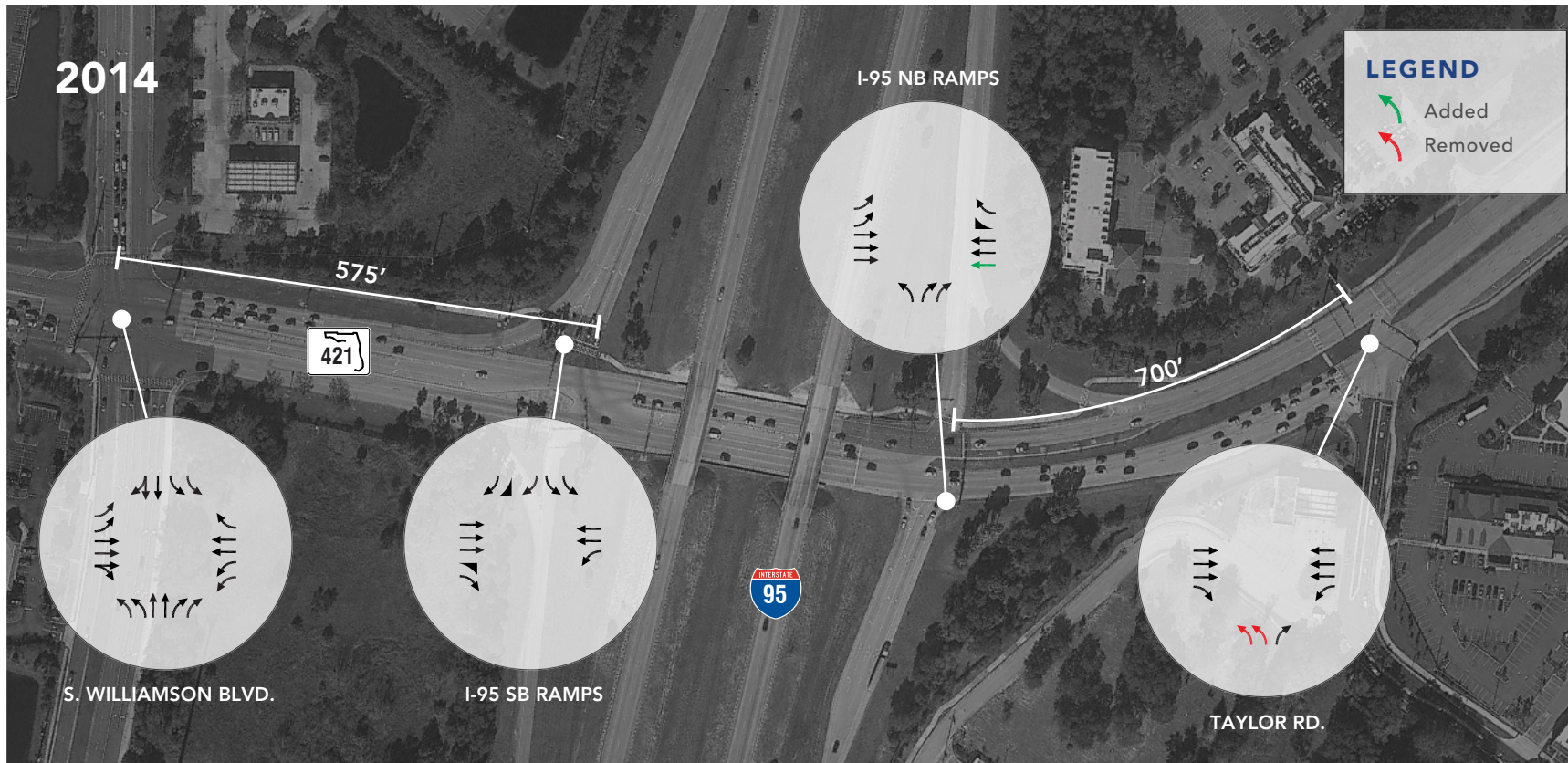


FIGURE 2-2B
I-95 & SR 421 Interchange | Historic Intersection Improvements



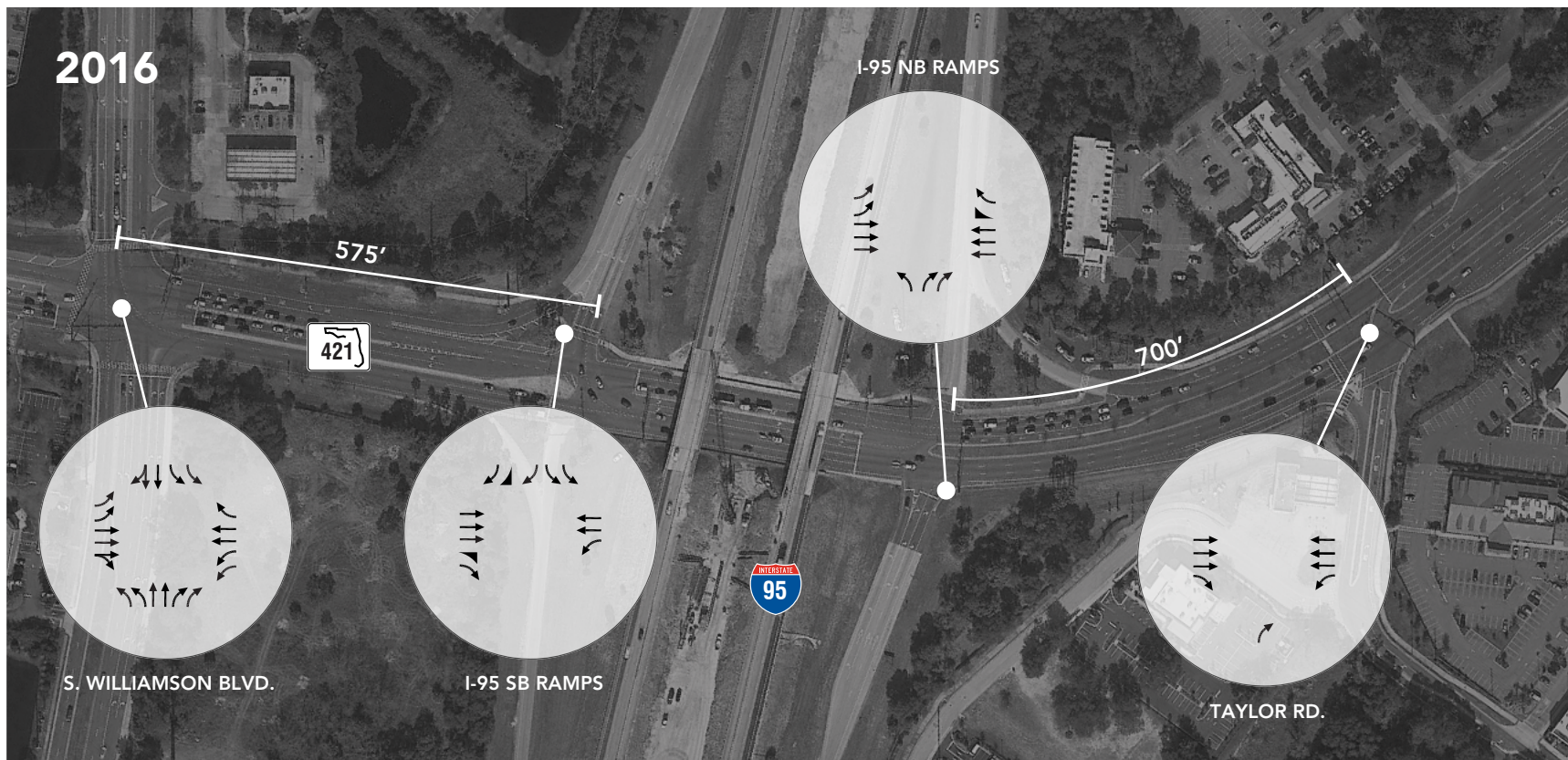
IMPROVEMENTS | Completed between 2012-2013

SR 421 at I-95 Northbound Ramps

- An additional auxiliary westbound through-lane was added. This provides extra queue storage for the westbound left-turn lane at the southbound ramp intersection.

SR 421 at Taylor Rd.

- The full access signalized intersection was reconstructed to eliminate the dual northbound left-turn lanes.
- Only a northbound right-turn movement remains along the Taylor Rd. approach.
- The pedestrian crosswalk was removed from the north leg of the intersection and relocated to the south leg.



2.2 Traffic Data Collection

Existing traffic data were collected between May and June 2014 as part of the I-95 Systems Operational Analysis Report (SOAR) study conducted by FDOT District Five. These turning movement counts were collected between 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM between Tuesday and Thursday which represent typical weekday peak hour conditions. Additionally, traffic count data from the Florida Traffic Information (FTI) database 2013 and Volusia County traffic count information were utilized to supplement the traffic data needs of the study. Raw traffic count information is provided in **Appendix C**. FDOT seasonal factors, axle correction factors, and historical AADT information are included in **Appendix D**. Traffic counts were conducted at the following locations:

Peak Hour Turning Movement Counts:

- SR 44 at Tomoka Farms Road
- SR 44 at Williamson Boulevard
- SR 44 at I-95 Southbound Ramps
- SR 44 at I-95 Northbound Ramps
- SR 44 at Sugar Mill Drive
- SR 421 at Summer Trees Road
- SR 421 at Williamson Boulevard
- SR 421 at I-95 Southbound Ramps
- SR 421 at I-95 Northbound Ramps
- SR 421 at Taylor Road
- SR 421 at Yorktowne Boulevard
- SR 421 at Clyde Morris Boulevard
- Pioneer Trail at Airport Road
- Pioneer Trail at Turnbull Bay Road
- Pioneer Trail at Sugar Mill Drive
- Turnbull Bay at Shadow Pine Drive

2.3 Design Traffic Factors

The procedures involved in developing traffic design characteristics used to generate and analyze future year Directional Design Hour Volumes are described in this section. The procedure complies

with the FDOT Project Traffic Forecasting Handbook. The traffic design characteristics include: the design hour factor (K), the directional design factor (D), the daily truck factor (T_{daily}) and design hour truck factor (T_f). Traffic characteristics computed from the field traffic counts and historic travel characteristics were used to develop the traffic design characteristics.

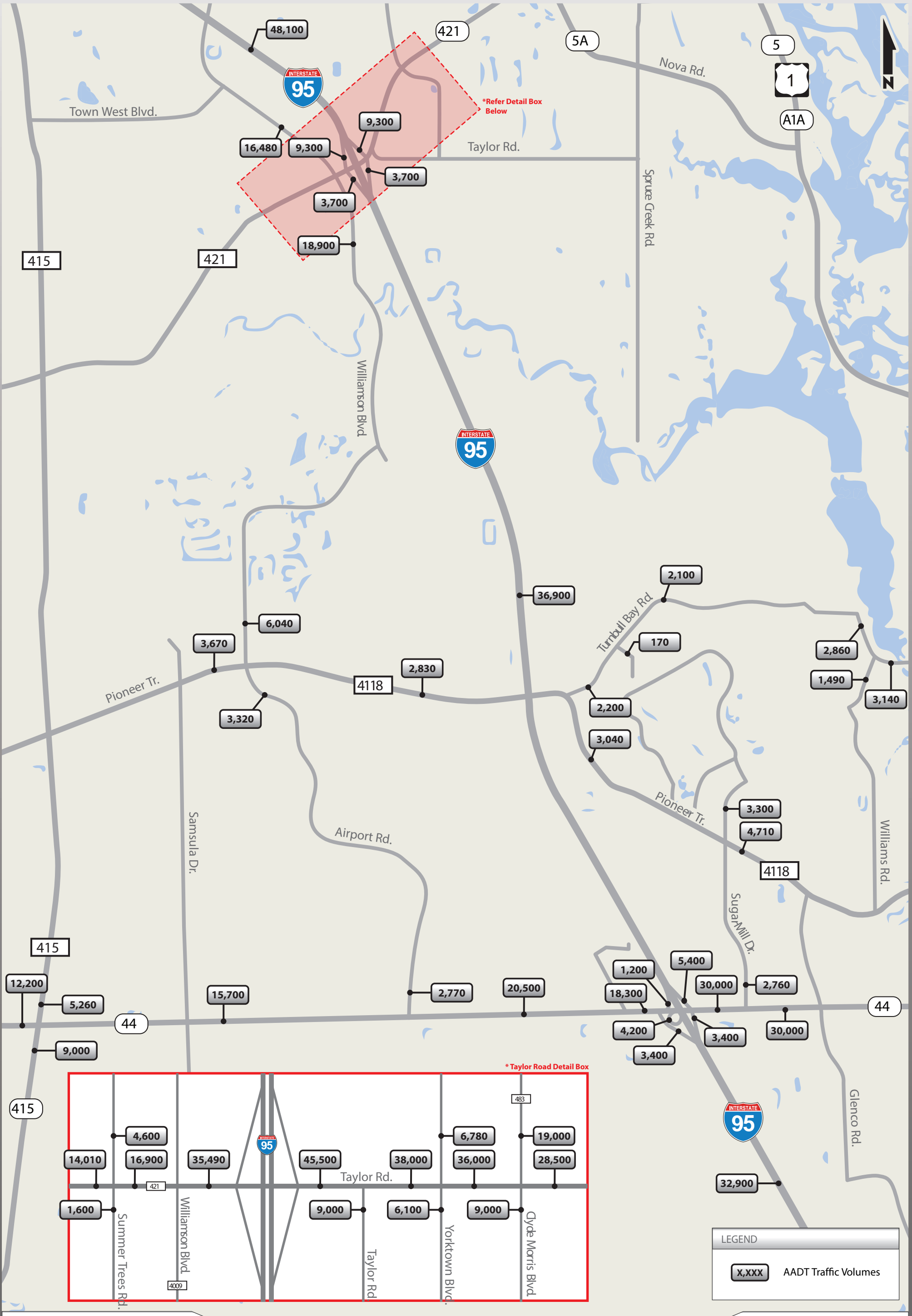
Table 2-1 provides a summary of traffic factors from the approved MLOU. These factors were obtained from FTI 2013 and 2013 Volusia County traffic count information.

Table 2-1: Traffic Factors

Roadway	Standard K (%)	D Factor (%)	T Factor (%)	T_f (%)	PHF	MOCF
I-95	9.0	55.0	13.9	7.0	0.95	0.98
SR 421	9.0	61.0	3.5	2.0	0.95	0.95
SR 44	9.0	61.0	6.2	3.1	0.95	0.95
Pioneer Trail	9.0	52.9	2.6	1.5	0.95	0.95

2.4 Existing AADT and Design Hour Traffic

Existing AADTs obtained from the FTI 2013 database were balanced for both mainline and ramps as part of the FDOT District 5 I-95 SOAR project that included the majority of I-95 interchanges in District 5. The balanced AADTs from the SOAR study were utilized for this IJR. **Figure 2-3** presents the 2013 existing AADTs in the study area along I-95 and the study corridors. Similarly, peak hour directional volumes along I-95 were also balanced for the a.m. and p.m. peak periods in the SOAR study. **Figure 2-4** presents the peak hour directional volumes. Intersection turning movement volumes collected at the study intersections were adjusted to obtain a balanced traffic flow conditions. The balanced a.m. and p.m. peak hour directional and intersection volumes were also presented in **Figure 2-2**. Developed AADTs and peak hour volumes from the I-95 SOAR study are included in **Appendix C**.

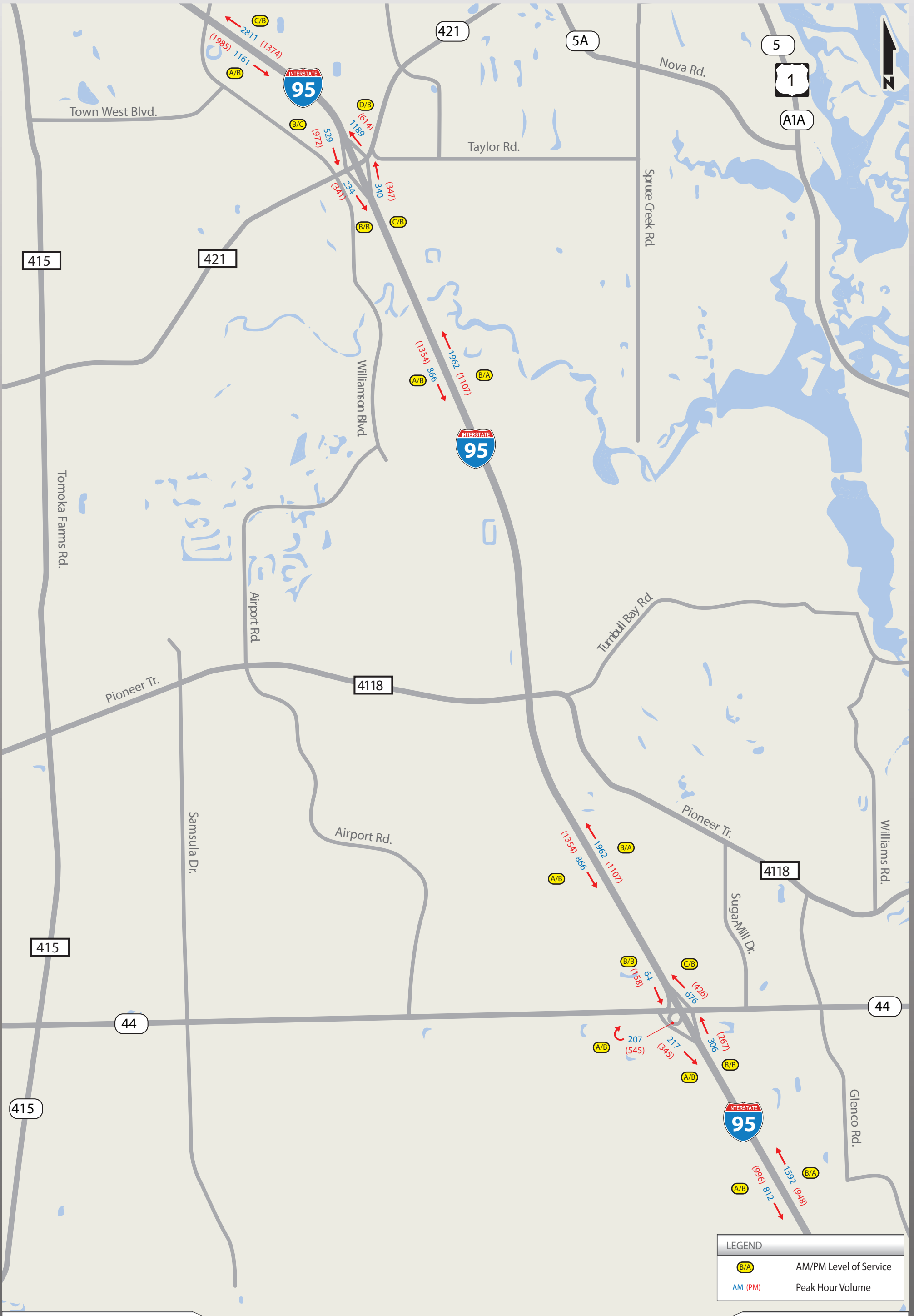


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PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange
Volusia County

Figure 2-3
Existing AADT

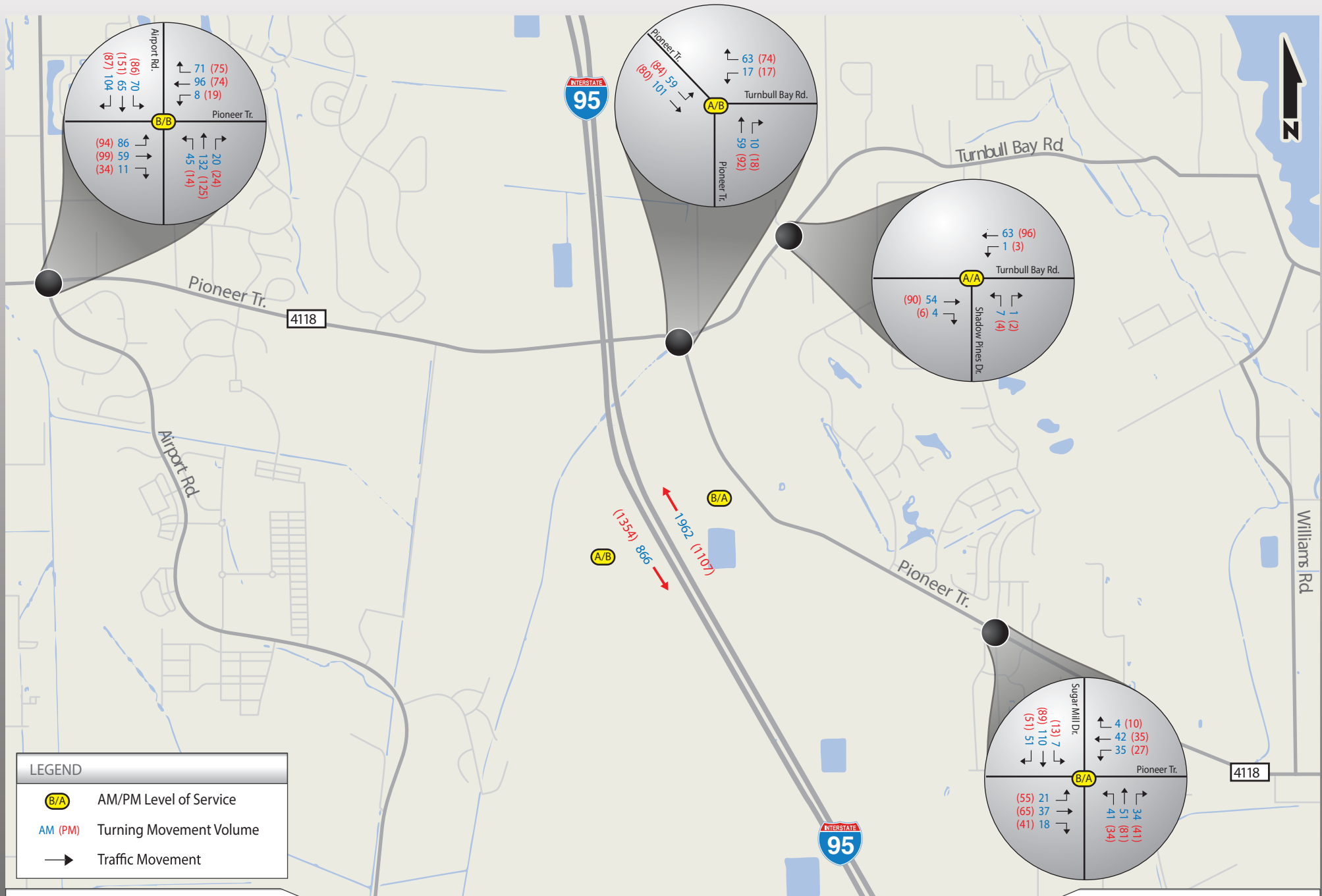


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PROJECT NUMBER: 12-097.02

**I-95 at Pioneer Trail Interchange
Volusia County**

**Figure 2-4
Existing Mainline AM & PM Peak Hour Level of Service**



DATE CREATED: 12/2/2014

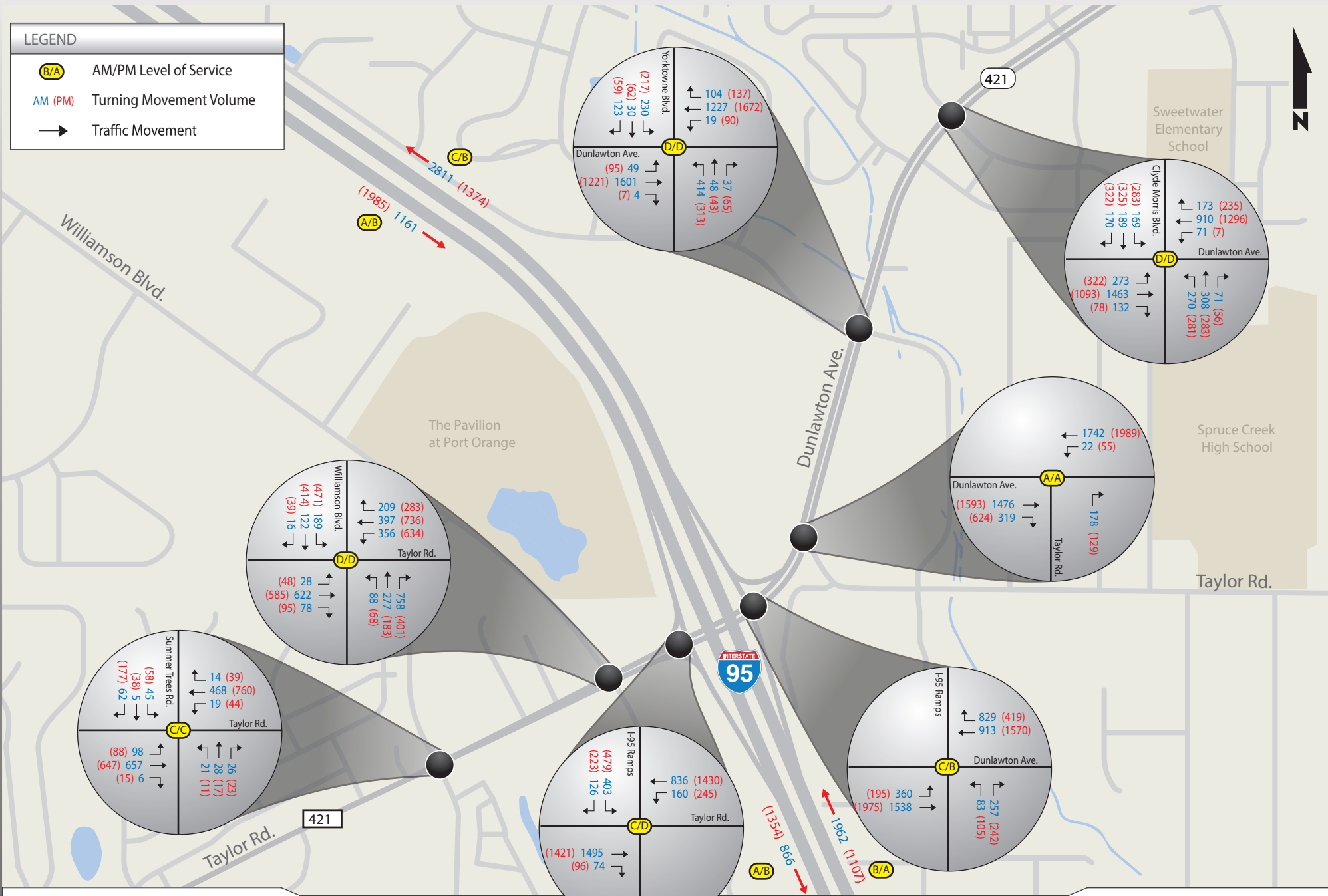
PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 2-4-2
Pioneer Trail - Existing AM & PM Peak Hour Volumes and
Level of Service

LEGEND

- B/A** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement



DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 2-4-3
SR 421 - Existing AM & PM Peak Hour Volumes and
Level of Service

2.5 Existing Conditions Traffic Operational Analysis

The existing a.m. and p.m. peak hour vehicle turning movement volumes depicted in **Figure 2-4** were utilized in performing the intersection level of service operations analysis using SYNCHRO software. The LOS conditions are also presented in **Figure 2-4**. Freeway segment and ramp merge/diverge analysis was conducted using HCS software to evaluate the existing operating conditions. As shown in **Table 2-2** and **Table 2-3**, all freeway segments and the ramp influence areas operate at LOS D or better during both the a.m. and p.m. peak hour conditions.

Table 2-4 provides a summary of the intersection LOS for the peak hour conditions. The intersection delay and LOS is provided for signalized intersections. For unsignalized intersections, the worst case results for the major street left turn movement/minor street approach are reported. As shown in **Table 2-4**, all the study intersections are operating at LOS D or better during the existing conditions. Existing intersection and freeway analysis worksheets are presented in **Appendix E**.

Key parameters used in the existing conditions freeway analysis are as follows:

- Peak Hour Factor (PHF): 0.95 (mainline); field collected PHF(intersections)
- Terrain = Level;
- I-95 Free-Flow Speed = 75 mph (mainline); and
- Lane Utilization Factor; Based on formulae or default whichever is lower.

Table 2-2: I-95 Freeway Analysis Summary

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
I-95												
South of SR 44	1,592	13.2	B	812	6.7	A	948	7.9	A	996	8.3	A
South of SR 421	1,962	16.3	B	866	7.2	A	1,107	9.2	A	1,354	11.2	B
North of SR 421	2,811	24.1	C	1,161	9.6	A	1,374	11.4	B	1,985	16.5	B

Table 2-3: I-95 Interchange Ramp Junction Analysis Summary

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	306	18.2	B	267	11.7	B
	SB On Ramp	Merge	207	8.9	A	345	10.5	B
	SB Off Ramp (loop)	Diverge	207	9.4	A	545	13.4	B
	NB On Ramp	Merge	676	21.4	C	426	13.8	B
	SB Off Ramp	Diverge	64	10.9	B	158	15.7	B
I-95 at SR 421	NB Off Ramp	Diverge	340	21.5	C	347	13.0	B
	SB On Ramp	Merge	234	11.6	B	341	16.0	B
	NB On Ramp	Merge	1,189	29.0	D	614	16.3	B
	SB Off Ramp	Diverge	529	14.0	B	972	22.3	C

Table 2-4: AM & PM Peak Hour Intersection Analysis

Study Intersection	Traffic Control	AM Peak Period Delay/LOS	PM Peak Period Delay/LOS
SR 44/Tomoka Farms Rd	Signalized	26.2/C	27.5/C
SR 44/Williamson Boulevard	Signalized	12.1/ B	32.5/ C
SR 44/I-95 NB Ramps	Signalized	20.9/ C	10.7/ B
SR 44/Sugar Mill Drive	Signalized	11.6/ B	7.2/ A
SR 421/Summer Trees Road	Signalized	23.9/ C	31.9/ C
SR 421/Williamson Boulevard	Signalized	42.4/ D	43.9/ D
SR 421/I-95 SB Ramps	Signalized	27.2/ C	39.6/ D
SR 421/I-95 NB Ramps	Signalized	21.9/ C	15.8/ B
SR 421/Taylor Road	Signalized	7.2/ A	6.9/ A
SR 421/Yorktowne Boulevard	Signalized	41.3/ D	53.6/ D
SR 421/Clyde Morris Boulevard	Signalized	40.1/ D	50.0/ D
SR 44/I-95 SB Ramps	Stop	12.7/ B	15.3/ C
Pioneer Trail/Airport Road	Stop	13.3/ B	13.2/ B
Pioneer Trail/Turnbull Bay Road	Stop	9.7/ A	10.0/ B
Pioneer Trail/Sugar Mill Drive	Stop	8.6/ A	9.3/ A
Turnbull Bay Rd/Shadow Pines Drive	Stop	9.4/ A	9.6 / A

Notes

1. Synchro based HCM outputs are presented in this table for the signalized intersections
2. HCM 2010 outputs are presented in this table for the unsignalized intersections
3. Overall intersection delay & LOS results are reported for signalized intersections
4. For unsignalized intersections delay and LOS reported are for minor street approach
5. Delay reported is in seconds/vehicle

2.6 Crash Data Analysis

Crash data analysis was performed for three years (January 2011 – December 2013) for I-95, SR 44, Pioneer Trail and SR 421. This section describes the crash data analysis for each of these study corridors. Crash data was obtained from the FDOT Crash Analysis Reporting System (CARS) database and Signal Four Analytics. Crash data for Pioneer Trail was obtained from Signal Four Analytics.

I-95

According to crash reports obtained from the FDOT CARS database and Signal Four Analytics, a total of 316 crashes occurred during the three year crash period between 2011 and 2013 along the study segment of I-95 extending 4.9 miles to north and 3.3 miles to the south of the proposed interchange. Twelve of the crashes resulted in fatalities. The number of crashes by year varied from a low of 94 (2011) to a high of 114 (2013). The majority of the crash types recorded within the study limits were of the rear-end type variety and off-road collisions which accounted for nearly two-third of all of the crash types. The off-road crashes included single-vehicle collisions hitting tree, guardrail, concrete barrier wall, etc. The calculated crash rate of 0.964 crashes per million vehicles is higher than the statewide average crash rate for urban interstate facilities of 0.711. **Figure 2-5** which summarizes the number of crashes by half-mile sections, illustrates the high number of crashes within the interchange influence area. **Tables 2-5 and 2-6** summarize the crash analysis for this 8.0 mile segment of I-95 in terms of crash severity and comparison of crash rate of the corridor over the duration of three years respectively.

I-95 Fatal Crashes

There were 12 crashes along I-95 that resulted in fatalities over the three year period (January 1, 2011 to December 31, 2013). These crashes led to 14 fatalities and 11 injuries. Out of the 12 crashes, six crashes involved vehicles losing control and overturned, two crashes involved vehicles losing control and hitting trees, one vehicle hit lost cargo and overturned, one crash occurred as the driver became unconscious due to cardiac arrest, one crash occurred due to driver distraction, one crash occurred as vehicle crashed into a parked vehicle on the shoulder. Two of these crashes were cited for driving under the influence. Seven of the crashes occurred during night time while one crash occurred on wet pavement conditions.

**Table 2-5: Crash Summary I-95
Milepost 16.0 - 24.0 - Years 2011 to 2013**

Summary	2011	2012	2013	Total	Percent (%)
Fatality Crashes	5	4	3	12	3.80%
Injury Crashes	38	42	37	117	37.03%
Property Damage Only	51	62	74	187	59.18%
Total	94	108	114	316	100.00%

**Table 2-6: I-95 Mainline Crash Rates
I 95 Mainline (MP 16.0 - MP 24.0)**

	Yearly Values			
	2011	2012	2013	Average
Average AADT (1,000's)	37.37	36.81	38.03	37.0
Crashes	94	108	114	105
Crash Rate/ Million Vehicle Miles	0.862	1.005	1.026	0.964

*AADTs were calculated using simple average method

2.6.1 I-95 Planned and Programmed Safety Improvements

Several safety issues were identified in the review of historical crash data. The following projects (not associated with the potential I-95/Pioneer Trail interchange) have been identified by the FDOT to improve the safety conditions of I-95 and the interchange areas. **Figure 2-5** illustrates the I-95 mainline crash frequency experienced between 2011 and 2013.

I-95 North of SR 421

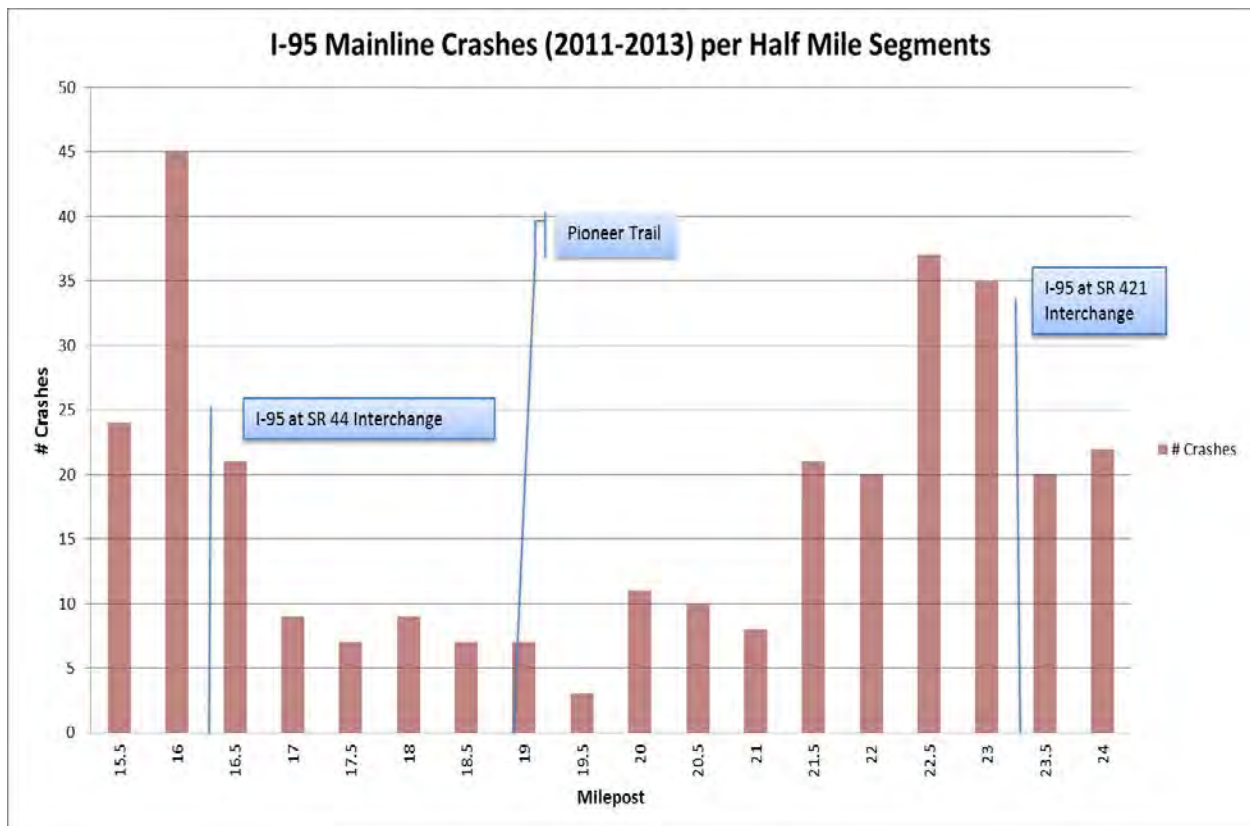
There were a high number of crashes along northbound I-95 to the north of SR 421. The contributing cause was the high volume of vehicles entering from the single lane SR 421 northbound on-ramp combined with inadequate acceleration lane length and the location of a horizontal curve downstream of this merge condition where mainline vehicles tend to move at a lower speed. The I-95 design/build project currently underway will address these concerns with improvements to the horizontal curve, visibility over the I-95/SR 421 overpass, and increasing the acceleration lane length.

I-95/SR 44 Interchange Area

Improvements consisting of extending the deceleration and acceleration lengths and improving the southbound exit loop ramp are being implemented at the I-95/SR 44 interchange. It is noted that the I-95 southbound exit ramp at the SR 44 interchange was recently brought under stop control from a yield condition to address the high number of rear end crashes occurring on the ramp terminal.

It is also noted that FDOT District 5 has recently completed the SR 44 Corridor Management Plan between Airport Road and South Myrtle Avenue which includes the I-95/SR 44 interchange. One of the improvements recommended was to extend the I-95 southbound loop ramp at the SR 44 interchange and bring the southbound exit ramp movement under signal control. These improvements would help address the high incidence of crashes at this interchange.

Figure 2-5: I-95 Crash Frequency per Half Mile Intervals



SR 421

Based on the crash reports obtained from the FDOT CARS database and Signal Four Analytics, a total of 340 crashes occurred during the three year crash period between 2011 and 2013 along the study segment of SR 421 *including I-95 ramps and ramp terminal intersections*. The number of crashes by year varied from a low of 51 (2011) to a high of 158 (2013). The majority of the crash types recorded are rear-end type crashes (50.0%), sideswipes (13.4%), and angle type crashes (11.9%). Three of the crashes resulted in fatalities. The calculated crash rate of 5.80 crashes per million vehicles is significantly higher than the statewide average crash rate for similar facilities of 1.79. **Figure 2-6** illustrates location and type of crash along the study segment. **Tables 2-7 and 2-8** provides the summary of crashes and crash rates respectively.

SR 44

According to crash reports obtained from the FDOT CARS database and Signal Four Analytics, a total of 75 crashes occurred during the three year crash period between 2011 and 2013 along the study segment of SR 44 *including I-95 ramps and ramp terminal intersections*. Two of the crashes resulted in fatalities. The majority of the crash types recorded are rear-end type crashes (57%), angle crashes (13%), and rollover crashes (12%). It should be noted that FDOT and Volusia County have completed recently operational and safety improvements mitigating the rollover crashes occurring on the interchange ramps. The calculated crash rate of 3.37 crashes per million vehicles is higher than the statewide average crash rate for urban interstate facilities of 1.673. **Figure 2-7** illustrates location and type of crash along the study segment. **Tables 2-7 and 2-8** provide the summary of crashes and crash rates respectively.

Table 2-7: Crash Summary SR 421 and SR 44 Years 2011 to 2013

Roadway	Segment	Length (mi)	2011	2012	2013	Total
Crashes						
SR 421	Summer Trees Boulevard to Clyde Morris Boulevard	2	49	126	153	328
SR 44	Tomoka Farms Road to Sugar Mill Drive	6	46	57	110	213
Fatalities						
SR 421	Summer Trees Boulevard to Clyde Morris Boulevard	2	1	0	1	2
SR 44	Tomoka Farms Road to Sugar Mill Drive	6	1	1	1	3

Table 2-8: Roadway Volumes and Crash Rates on SR 421 and SR 44 Years 2011 to 2013

Roadway	Segment	Length (mi)	2011	2012	2013	Average
AADT in Thousands						
SR 421	Summer Trees Blvd to Clyde Morris Blvd	2	26.4	26.4	27.2	26.67
SR 44	Tomoka Farms Rd to Sugar Mill Dr	0.92	20.6	21	24.2	21.93
Crash Rate per million vehicle miles						
SR 421	Summer Trees Blvd to Clyde Morris Blvd	2	2.75	6.64	8.01	5.80
SR 44	Tomoka Farms Rd to Sugar Mill Dr	0.92	2.17	4.11	3.81	3.37

Pioneer Trail

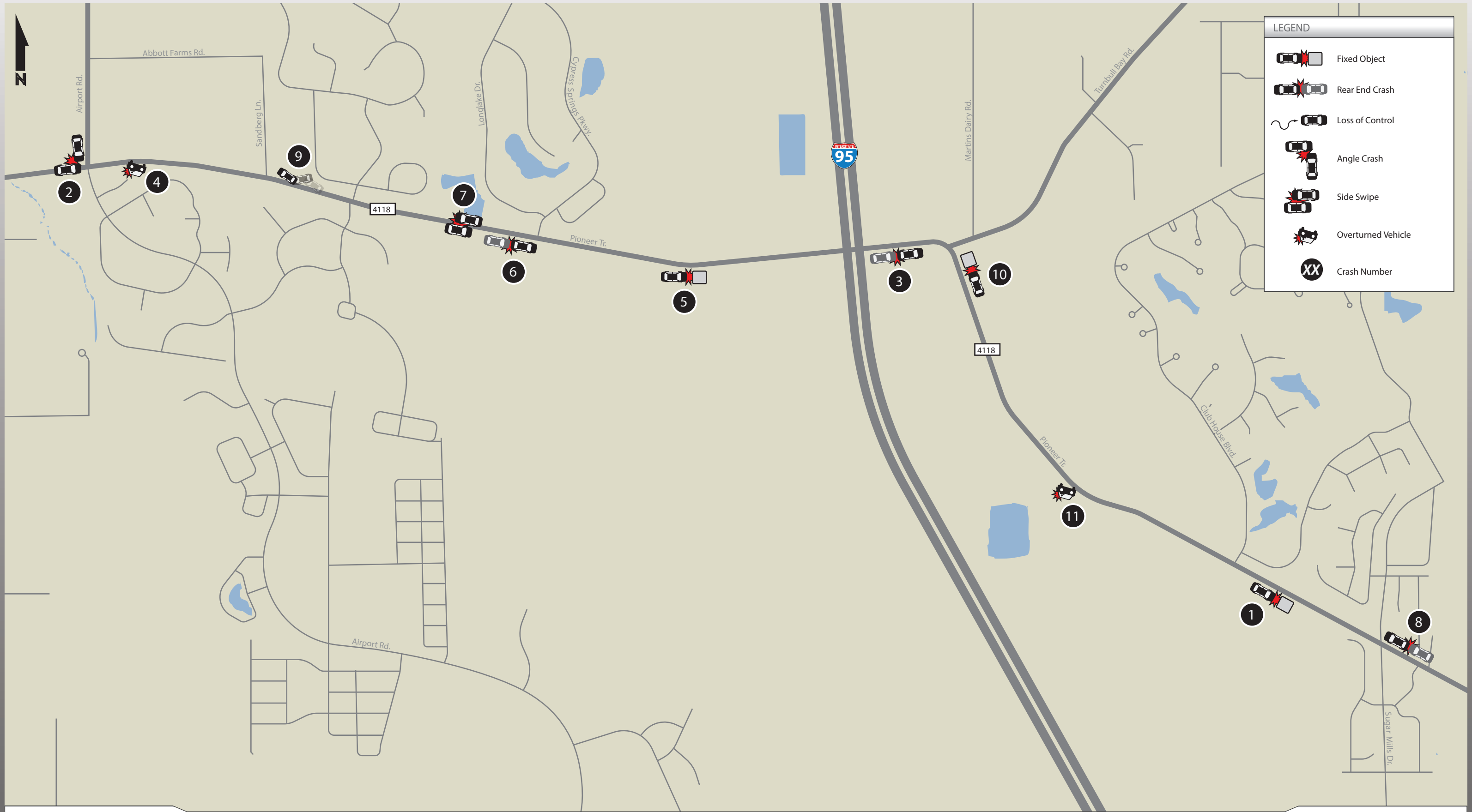
A detailed crash analysis was completed for Pioneer Trail. According to crash records obtained from Signal Four Analytics, there were eleven crashes reported along Pioneer Trail between Airport Road and Sugar Mill Drive during the three year crash period. The crashes consisted of three rear-end collisions, one angle type crash, one sideswipe crash, one vehicle hitting guardrail, one vehicle hitting a tree, one vehicle ran into a ditch, two vehicles overturned, and one vehicle hit a utility pole. These crashes led to eight injuries and total property damage amounting to \$107,200. Of the eleven crashes, five were cited for careless driving, four for exceeding safe speed limit, one for disregarding stop sign and one crash occurred due to improper driving of an unknown vehicle. Ten crashes occurred on dry pavement conditions and one occurred on wet pavement condition. Eight crashes occurred during daytime, while, three crashes occurred at night. **Table 2-9** and **Figure 2-8** present the crash summary and a crash diagram for Pioneer Trail.



FIGURE 2-6
SR 421 Crash Diagram



FIGURE 2-7
SR 44 Crash Diagram



DATE CREATED: 1/8/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange
Volusia County

FIGURE 2-8
Pioneer Trail Crash Diagram
January 2011 - December 2013

Table 2-9 Crash Summary

Major Route: Pioneer Trail County Volusia
 Roadway Segment: Between Airport Rd and Sugar Mill Dr City New Smyrna Beach
 Study Period: 1-Jan-11 to 31-Dec-13 Engineer

CRASH REF. NO.	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROPERTY DAMAGE	LIGHTING CONDITION	PAVEMENT CONDITIONS	CONTRIBUTING CAUSE
1	2/12/2012	Sunday	5:50 PM	Hit Tree	0	1	\$5,000	Day	Dry	Driver Distraction
2	4/21/2012	Saturday	8:20 PM	Angle	0	1	\$5,000	Night	Wet	Disregarded Stop Sign
3	5/19/2012	Saturday	12:00 PM	Rear end	0	1	\$2,500	Day	Dry	Careless Driving
4	6/15/2012	Friday	9:04 AM	Vehicle Overturned	0	0	\$2,000	Day	Dry	No improper driving
5	9/17/2012	Monday	4:20 PM	Hit Utility Pole	0	1	\$58,000	Day	Dry	Exceeded Safe Speed Limit
6	2/17/2013	Sunday	10:45 AM	Rear end	0	1	\$4,000	Day	Dry	Careless Driving
7	5/13/2013	Monday	9:01 AM	Sideswipe	0	1	\$9,000	Day	Dry	Exceeded Safe Speed Limit
8	8/2/2013	Friday	11:18 AM	Rear end	0	0	\$8,000	Day	Dry	Careless Driving
9	8/4/2013	Sunday	9:07 PM	Ran into Ditch	0	0	\$5,000	Night	Dry	Careless Driving
10	10/16/2013	Wednesday	4:21 PM	Hit Guardrail	0	1	\$700	Day	Dry	Exceeded Safe Speed Limit
11	12/19/2013	Thursday	1:00 AM	Vehicle Overturned	0	1	\$8,000	Night	Dry	Exceeded Safe Speed Limit
Total					0	8	\$107,200			

						CRASH TYPE							
TOTAL CRASHES	FATAL CRASHES	INJURY CRASHES	TOTAL INJURIES	PROPERTY DAMAGE	PED/BIKE/MOTORCYCLE	ANGLE	REAR END	HIT GUARDRAIL	HIT UTILITY POLE	HIT TREE/SHRUB	RAN INTO DITCH/CULVERT	OVERTURNED	SIDESWIP E
11	0	8	8	11	1	1	3	1	1	1	1	2	1
	0%	73%	NA	100%	9%	9%	27%	9%	9%	9%	9%	18%	9%

CONTRIBUTING CAUSE													
TIME OF DAY		ROAD CONDITION		NO IMPROPER DRIVING	CARELESS DRIVING	EXCEEDED SAFE SPEED LIMIT	DISREGARDED STOP SIGN	DRIVER DISTRACTION	ALCOHOL-UNDER INFLUENCE	DRUGS- UNDER INFLUENCE	FOLLOWED TOO CLOSELY	DISREGARDED TRAFFIC SIGNAL	OTHER
DAY	NIGHT	WET	DRY										
8	3	1	10	1	4	4	1	1	0	0	0	0	0
73%	27%	9%	91%	9%	36%	36%	9%	9%	0%	0%	0%	0%	0%

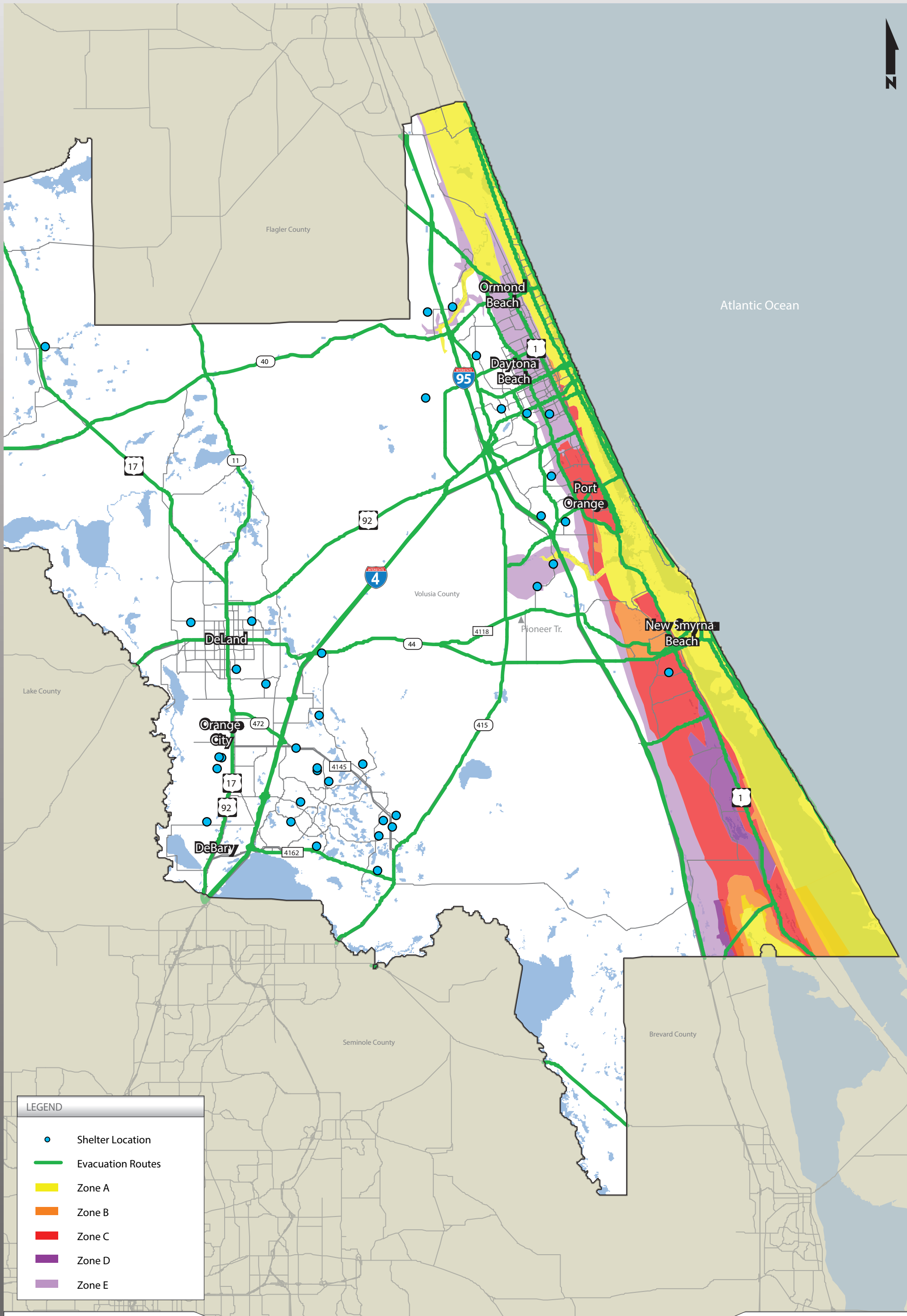
2.7 Existing Traffic Conditions Summary

The findings of the existing conditions analysis are summarized below:

- All study intersections operate at LOS D or better during the peak hour conditions;
- All freeway segments in the Area of Influence operate at LOS C or better during the peak hour conditions;
- All ramp merge/diverge areas in the project study area operate at LOS C or better during the peak hour conditions except for the northbound on ramp from SR 421 which operates at LOS D during the AM peak hour; and
- The crash analysis conducted for the recent three-year period showed that I-95 segments within the project area experienced crash rates higher than the statewide average for similar facilities. However, the Department is currently implementing safety improvements as part of the I-95 design/build project to mitigate the high incidence of crashes.

2.8 Evacuation Assessment

Pioneer Trail is a designated statewide emergency evacuation corridor. **Figure 2-9** depicts the designated evacuation zones, routes, and public shelters within Volusia County. Volusia County and the cities of Port Orange and New Smyrna Beach have stated that the proposed I-95 interchange at Pioneer Trail would provide enhanced evacuation mobility during hurricanes and wild fires. Volusia County is considered at medium to high risk for wild fires. For example, in 1998 Volusia and Flagler counties experienced wildfires that burned approximately 137,000 acres, with approximately 29,000 homes threatened and more than 300 homes and business damaged or destroyed in various areas around Volusia County. In 2006 wild fires occurred in the vicinity of Pioneer Trail that resulted in 1,000 homeowners, including those residents along Pioneer Trail and the Sugar Mill subdivision, being ordered to evacuate. These fires resulted in intermittent closures of I-95 for a number of days.



DATE CREATED: 1/28/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange
Volusia County

FIGURE 2-9
Evacuation Zones, Routes & Shelters

2.9 Existing Environmental Conditions

The assessment of environmental considerations presented in this section will provide an overview of the social, cultural, natural, and physical resources that were observed within the proposed I-95 and Pioneer Trail interchange. The objective of this analysis is to determine if any environmental impacts requiring mitigation or constituting a fatal flaw are likely if the proposed interchange is built. Base information was extracted from Geographical Information System (GIS) datasets maintained by the Florida Geographic Data Library (FGDL). The data was collected using the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool, a GIS-based environmental screening analysis application with over 550 environmental resource data layers.

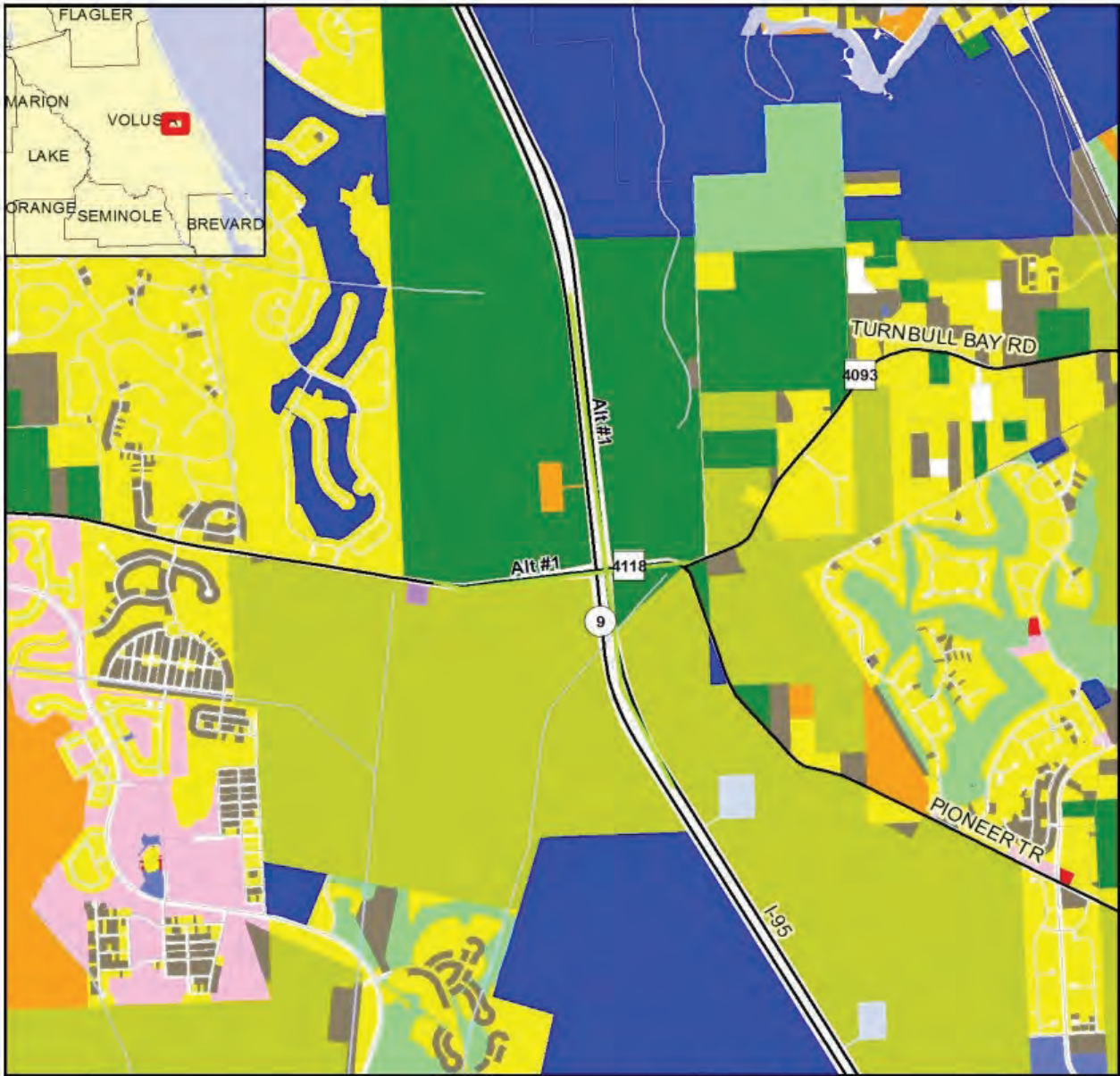
Based on the initial review of potential environmental and social impacts, there will be minor impacts that will be assessed and mitigated in the PD&E Study. This preliminary analysis reveals that encroachment of wetlands, wildlife habitat, and floodplains will likely occur in the project study area. The PD&E phase of the project will identify the extent of these impacts associated with the Build alternative. The areas of potential encroachment will be minimized to the extent possible. It is expected that these impacts will not preclude the construction of an interchange at the subject location.

2.9.1 Community Data and Socioeconomics

The AOI for the proposed Pioneer Trail interchange features large tracts of vacant land along the majority of the I-95 corridor. The southeast end of the AOI is comprised of a variety of land uses including residential and vacant non-residential areas. Open (non-agricultural) land uses are also scattered throughout the southern and eastern limits of the I-95 and Pioneer Trail corridor as illustrated in **Figure 2-10**.

As shown in **Figure 2-11** and **Figure 2-12**, there are no existing community facilities and historic resources located within the areas that are potentially affected by the proposed Pioneer Trail interchange.

I-95 Interchange at Pioneer Trail



0 0.25 Miles



Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Revenue
 Florida Department of Transportation
 Florida County Property Appraiser Offices

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- | | | |
|--|---|--|
| <ul style="list-style-type: none"> ● ETDM Alternative Point ● ETDM Alternative Terminus — ETDM Alternative Segment ■ ETDM Alternative Polygon — Major Road — Local Road or Trail | <ul style="list-style-type: none"> — Railroad — River, Stream or Canal ■ Agricultural ■ Industrial ■ Institutional ■ Mining | <h3>Land Use Map</h3> <ul style="list-style-type: none"> ■ Open (Not Agricultural) ■ Other ■ Public ■ Right-of-Way ■ Recreational ■ Residential ■ Retail/Office ■ Vacant (Residential) ■ Vacant (Nonresidential) ■ Water No Data |
|--|---|--|

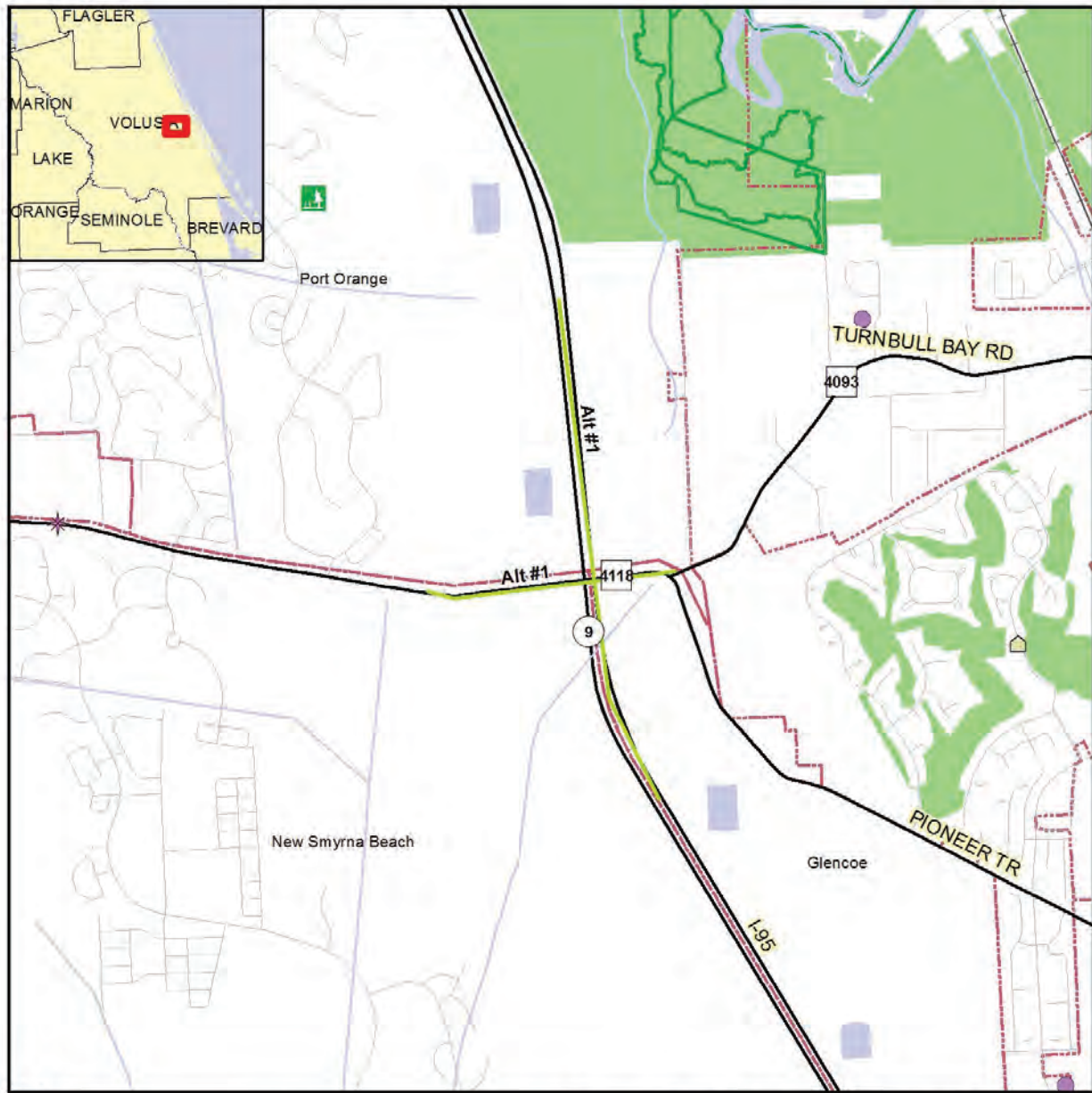
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est
 Environmental Screening Tool

Map Generated on: 10/7/2014



I-95 Interchange at Pioneer Trail



- Community Facilities and Services Map**
- ETDM Alternative Point
 - ETDM Alternative Terminus
 - ETDM Alternative Segment
 - ETDM Alternative Polygon
 - Major Road
 - Local Road or Trail
 - 🏛️ Government
 - 🏠 Civic Center
 - ⚰️ Cemetery
 - 🏠 Social Service
 - 🏢 Community Center
 - 👮 Law Enforcement
 - ✳️ Place of Worship
 - 🏛️ Cultural Center
 - 🚒 Fire Station
 - 🏥 Health Care
 - 🎓 School
 - 🏡 Park
 - 🌊 River, Stream or Canal
 - 🚶 Recreational Trail
 - 🚂 Railroad
 - 🔲 Community Boundary
 - 💧 Water Body
 - 🌳 Conservation or Recreation Area

Data Sources: US Geological Survey; FL Department of Transportation; NAVTEQ; FL Property Appraisers; FL Natural Areas Inventory

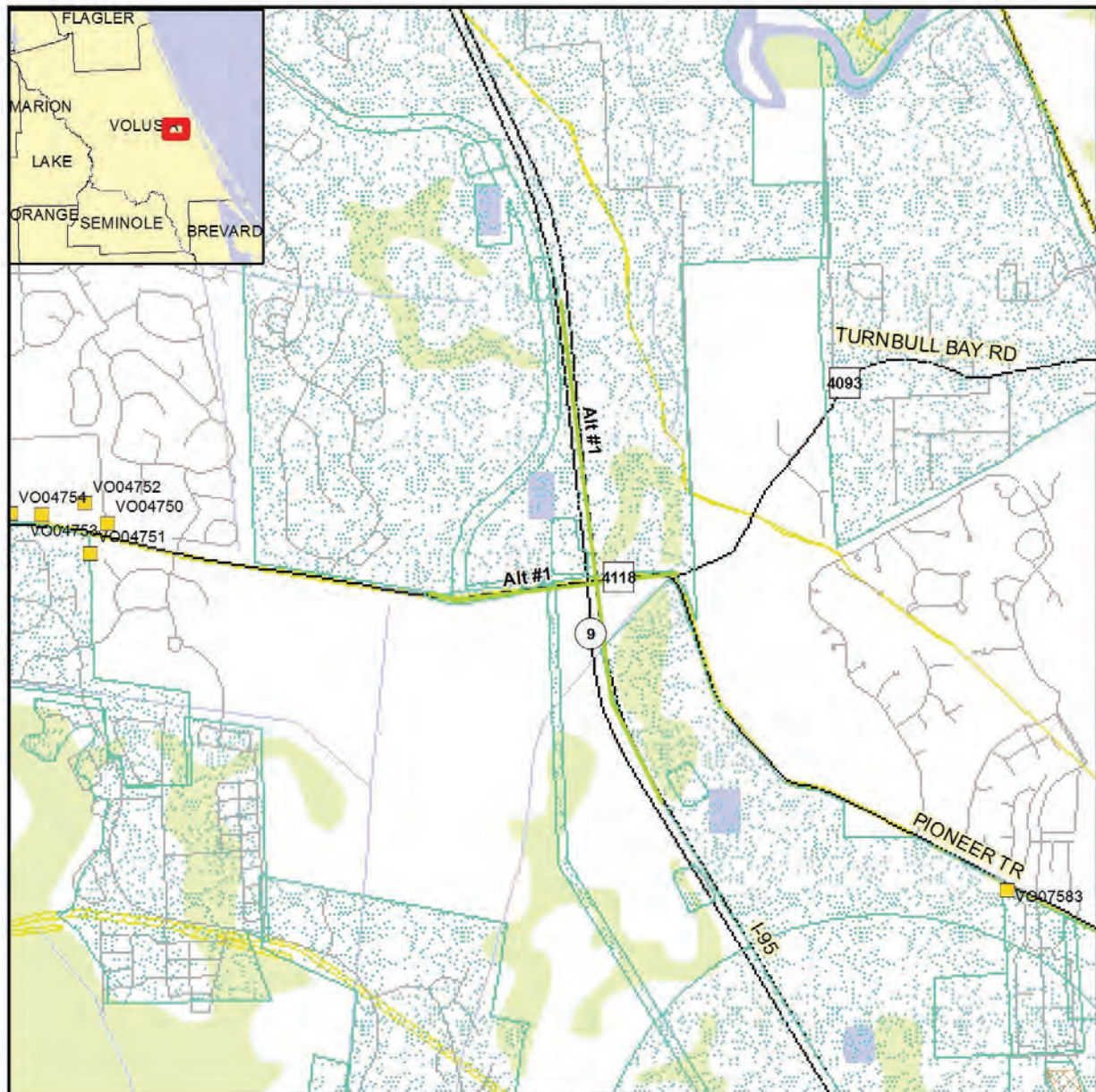


Map Generated on: 10/7/2014



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I-95 Interchange at Pioneer Trail



Historic Resources Map

0 1 Miles

Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Transportation
 Florida Department of State,
 Bureau of Archaeological Research

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- Railroad
- Historic Structure
- Historic Cemetery
- Historic Bridge
- Historic Resource Group
- Cultural Resource Field Survey Area
- State Historic Highway

Note: Historic properties depicted on this map represent resources listed in the Florida Master Site File excluding archeological site locations, which, pursuant to Chapter 267.135, Florida Statutes, may be exempt from public record (Chapter 119.07, Florida Statutes). Absence of features on the map does not necessarily indicate an absence of resources in the project vicinity.

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2.9.2 Natural Resources

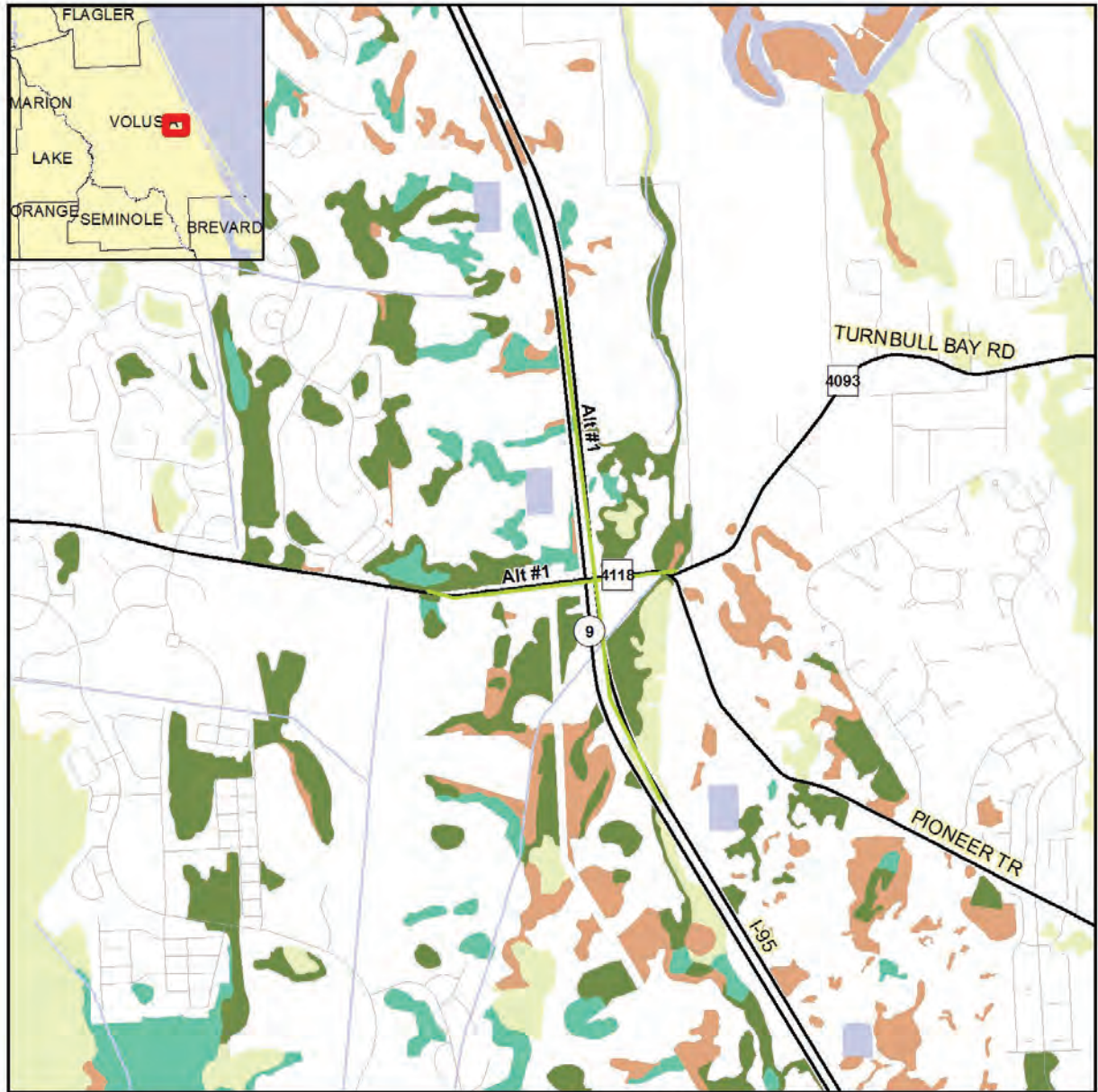
The natural resources along the corridor were extracted from the FGDL and the U.S. Fish and Wildlife National Wetland Inventory (NWI). Observations and findings presented below reflect only the preliminary analysis and should be perceived as such. Any potential impacts will be assessed in detail and mitigation measures will be determined during the PD&E study of this interchange.

Wetlands, Wildlife Habitat, and Floodplains

As illustrated in **Figure 2-13**, three of the four quadrants along the proposed Pioneer Trail and I-95 interchange corridor contain wetlands. Based on the ETDM Screening report, the study area contains priority three and four functional wetlands. Functional wetlands are defined as those in a more natural state and the prioritization is based on overlap with Land Use Intensity index and Florida Natural Areas Inventory Potential Natural Areas. Based on the NWI, there are several wetlands located within the AOI. Over 28% of the wetland systems are classified as Palustrine. Wetlands within this category include all nontidal, vegetated wetlands bounded by uplands that are dominated by trees, shrubs, and persistent emergents. The Palustrine system lacks flowing water and in this case is primarily made up of a forested mix. The project area appears to be a mixture of forested uplands and depressional wetlands.

The PD&E phase of the project will identify the spatial extent of wetland impacts associated with the Build alternative and will address any secondary cumulative impacts. The areas of potential encroachment of wetlands will be minimized to the extent possible in the PD&E Study. Based on the accepted design alternative, impacts will require mitigation. The Environmental Resource Permit (ERP) application will include a mitigation plan to offset the wetland impacts. Mitigation performed by a water management district must be coordinated with the U.S. Army Corps of Engineers and must satisfy all state and federal mitigation requirements.

I-95 Interchange at Pioneer Trail



0 0.4 Miles

Wetland Resource Map



- | | | |
|---------------------------|------------------------|--------------------------------|
| ETDM Alternative Polygon | Major Road | Non-vegetated Wetland |
| ETDM Alternative Segment | Local Road or Trail | Vegetated Non-forested Wetland |
| ETDM Alternative Terminus | River, Stream or Canal | Wetland Forested Mixed |
| ETDM Alternative Point | Water Body | Wetland Coniferous Forest |
| | | Wetland Hardwood Forest |

Data Sources: NAVTEQ; Florida Water Management Districts; US Geological Survey
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Map Generated on: 10/7/2014



The project AOI was identified by the ETDM screening as being a Scrub-Jay Service Area with the Swallow-tailed Kite as the dominant species. Several federal and state listed species such as the Mountain Mullet, Atlantic Salt Marsh Snake, and Wood Stork were identified as having the potential to occur within the AOI due to the presence of suitable habitat (see **Figure 2-14**). Common species to the area include Red-Cockaded Woodpecker, Eastern Indigo Snake, Everglade Snail Kite, and Piping Plover. These species are common to Volusia County and thus, found throughout.

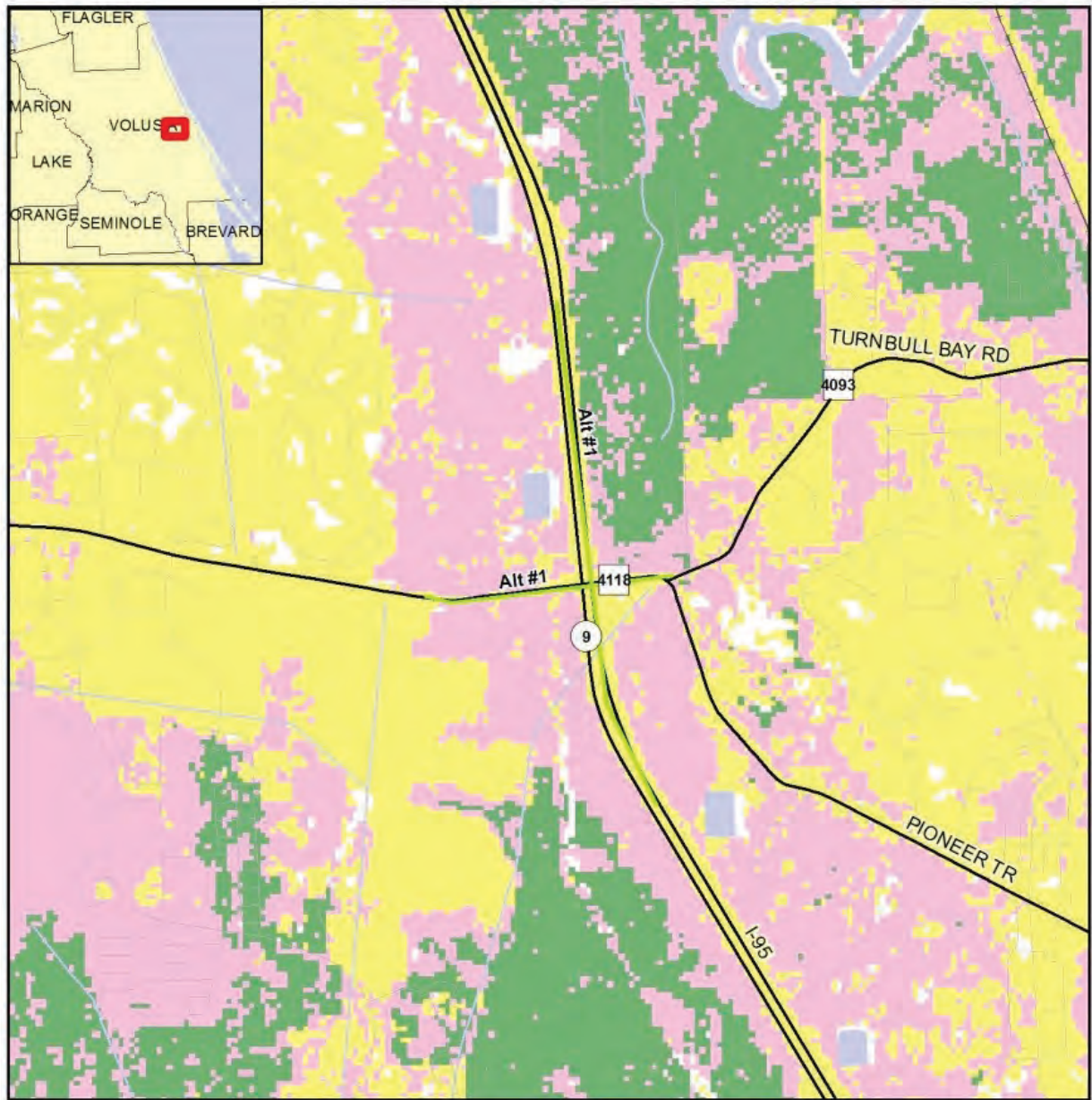
In our preliminary review of the data, the proposed interchange alternative will have minimal impacts to the habitat system within the project limits. A detailed assessment of the wildlife should be completed during the PD&E Study which will reveal any impacts and provide mitigation techniques for the affected wildlife.

In compliance with Executive Order 11988 “Floodplain Management”, the project corridor was analyzed using the Federal Insurance Administration Flood Insurance Rate Maps. Executive Order 11988 directs federal agencies to avoid to the extent possible development within a floodplain. If a project is to be found within a floodplain, a detailed analysis must be completed specific to the U.S. Department of Transportation Order 5650.2 “Floodplain Management and Protection” April 23, 1979.

Per the FEMA Flood Insurance Rate Maps, the proposed Pioneer Trail interchange falls within the 100-year floodplain. As shown in **Figure 2-15**, over 53% of the project study area is classified as a Special Flood Hazard Area within Zone A and is subject to inundation by the one percent annual chance flood event. Approximately 47% is designated as Zone X which is subject to inundation by flood with a two percent chance of being equaled or exceeded by the 500-year flood.

The north side of Pioneer Trail in the interchange vicinity is designated as the Florida Forever conservation and acquisition area, a site within the Spruce Creek Florida Forever Board of Trustees Project which is part of the State of Florida’s Conservation and Recreation Lands program (see **Figure 2-16**). This project has been one of several priority areas of the county-wide Volusia Forever program. The Volusia Forever program provides for the acquisition and management of environmentally sensitive and outdoor recreation lands.

I-95 Interchange at Pioneer Trail



Integrated Wildlife Habitat Ranking System Map

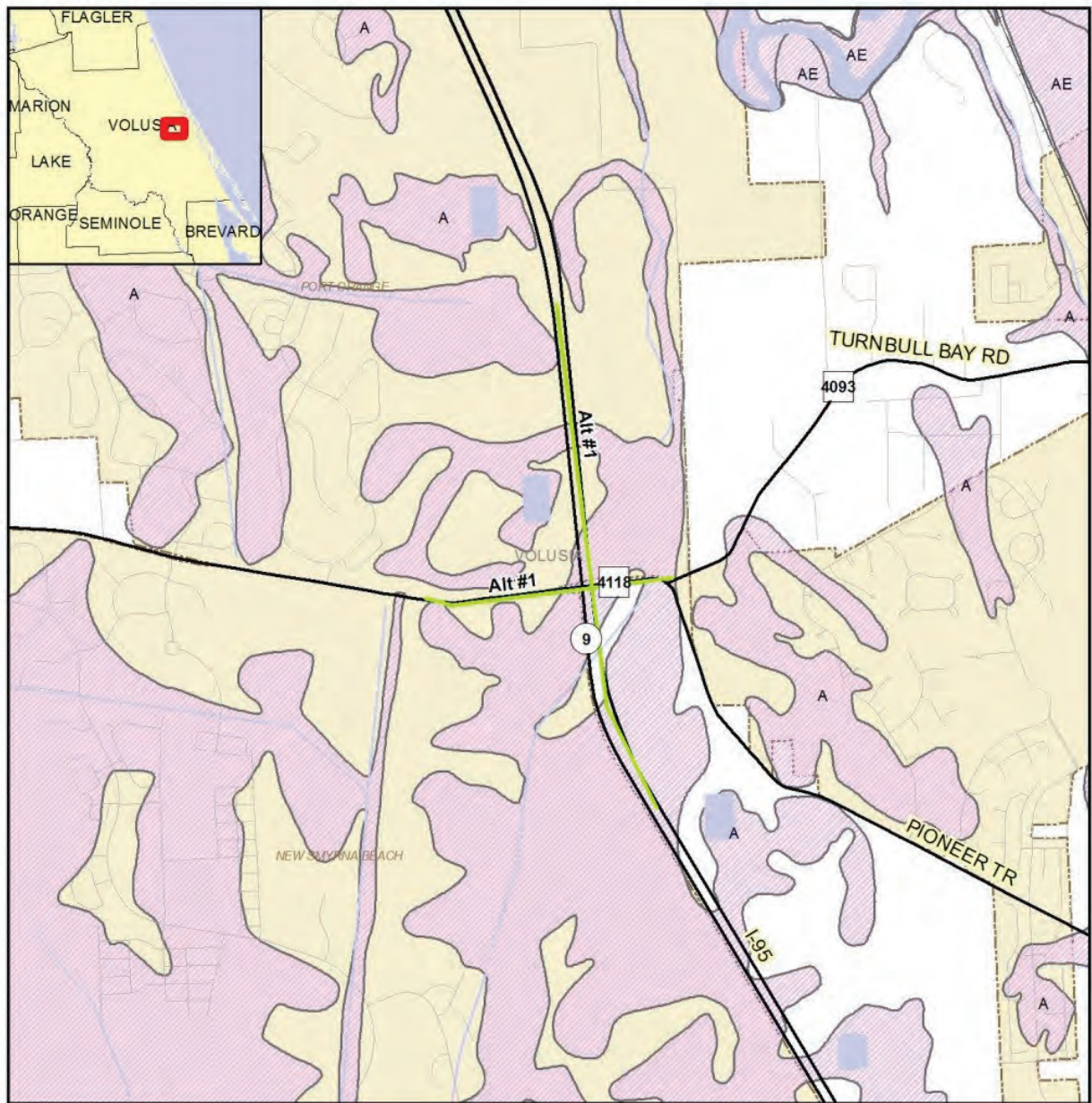
- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Railroad
- River, Stream or Canal
- Water Body
- Major Road
- Local Road or Trail
- Low Habitat Quality
- Medium Habitat Quality
- High Habitat Quality

Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Department of Transportation
 Florida Fish & Wildlife Conservation Commission

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I-95 Interchange at Pioneer Trail



Floodplain Resource Map

0 0.5 Miles



Data Sources:
 NAVTEQ
 US Geological Survey
 Federal Emergency Management Agency

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body
- City Limits
- County Boundaries
- Special Flood Hazard Area

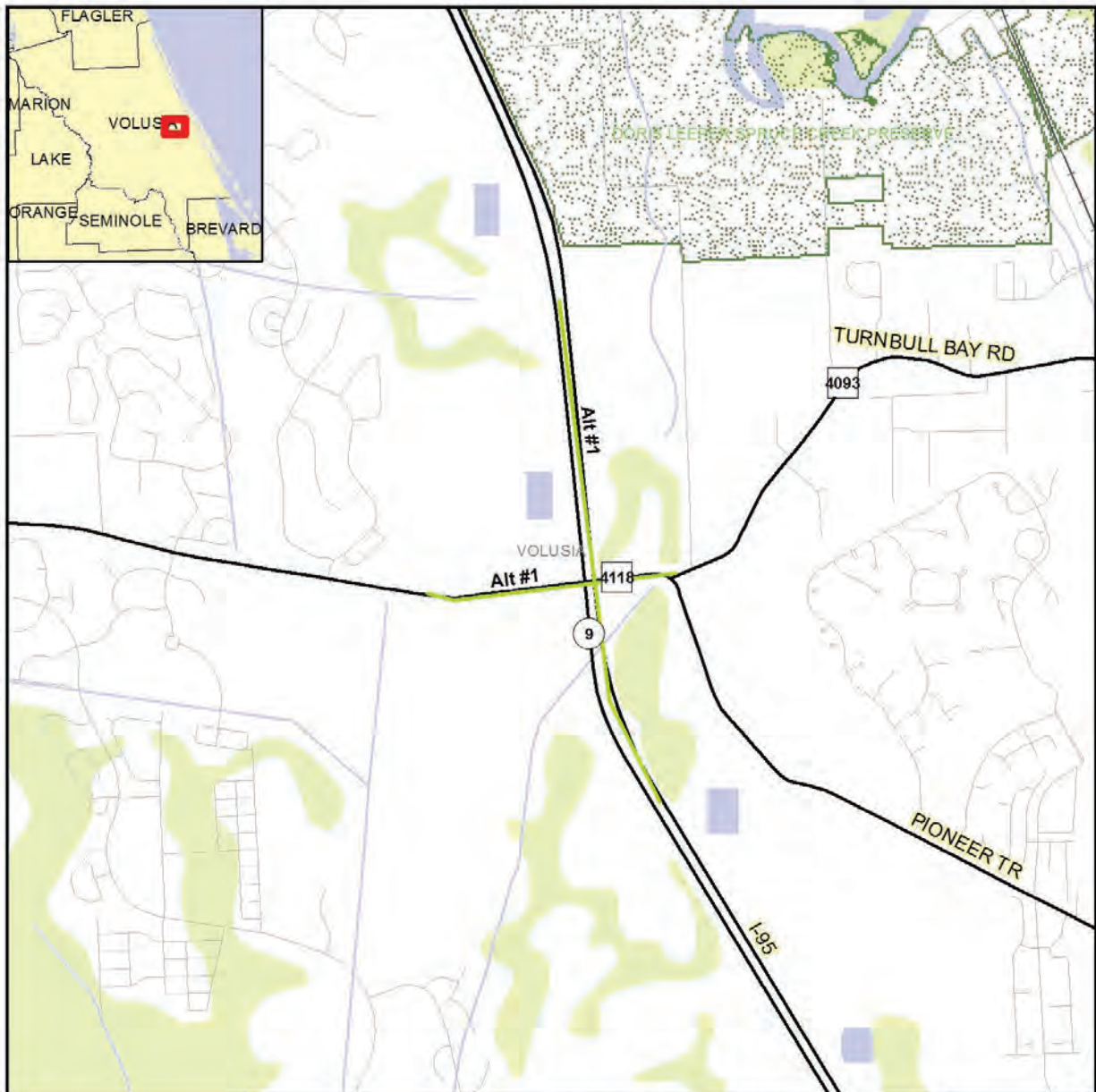
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I-95 Interchange at Pioneer Trail



0 0.8 Miles

Conservation and Recreation Area Map



Data Sources:
 NAVTEQ
 US Geological Survey
 Florida Natural Areas Inventory

- ETDM Alternative Point
- ETDM Alternative Segment
- ▨ ETDM Alternative Polygon
- ETDM Alternative Terminus
- Major Road
- Local Road or Trail
- River, Stream or Canal
- Water Body
- Swamp/Marsh
- ▨ Conservation or Recreation Area
- Railroad
- ▭ County Boundary

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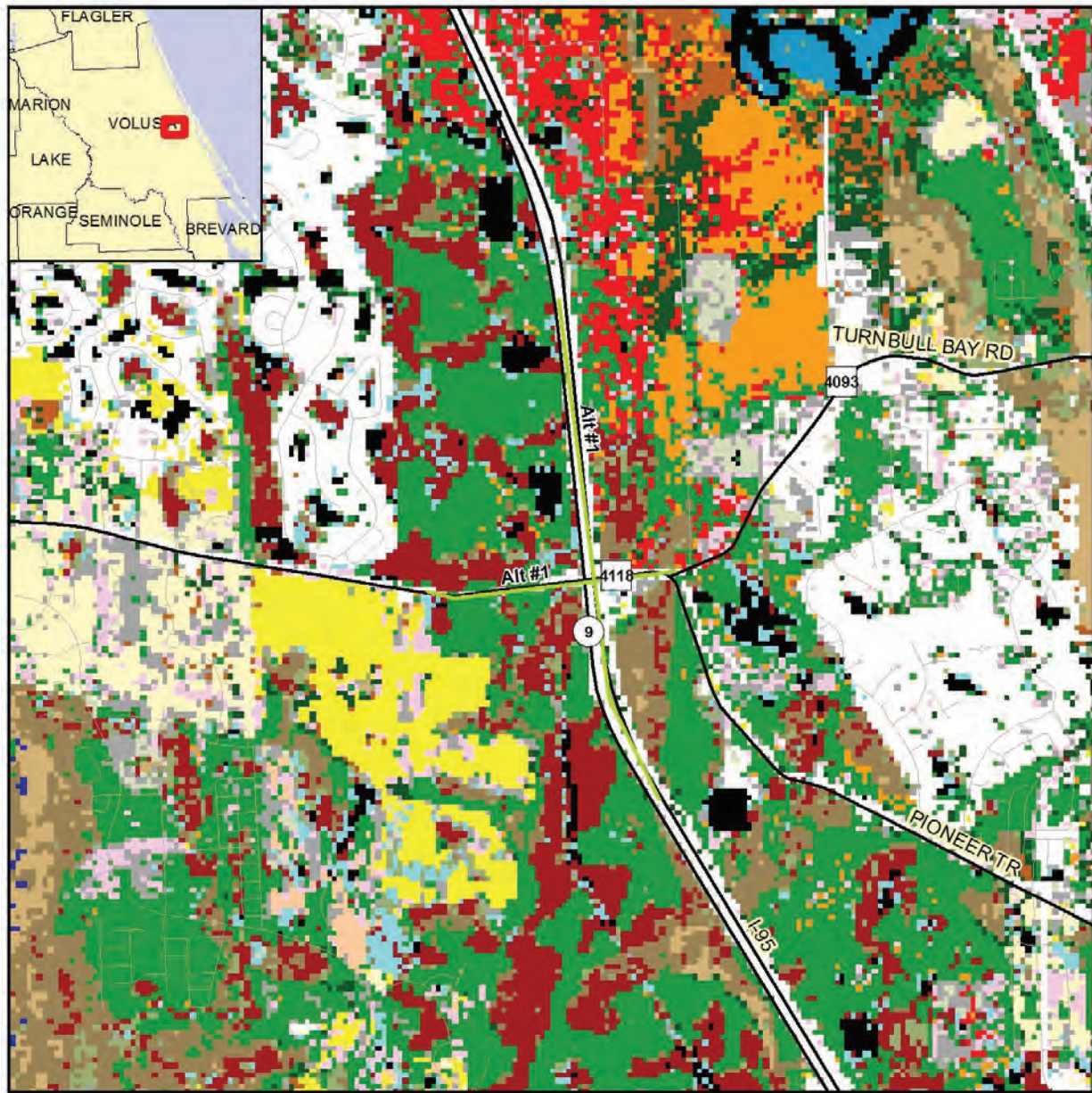
2.9.3 Soils

Based on the data obtained from the U.S. Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Volusia County, the interchange study area contains typically sandy soils as shown in **Figure 2-17**. Soils on the project site provide insight into historic vegetation patterns and potential land uses. The dominant soil types on the uplands of the site are: Daytona, Myakka, Pomona, and Smyrna (see **Table 2-10**). This soil series along the corridor are characteristics of depressions.

Table 2-10: Soil Types and Descriptions Occurring on the Project Study Area

Soil Name	Description	Seasonal High Water		Historic Vegetation	Hydric Status
		Table Depth (in)	Duration (mo)		
Daytona sand, 0-5% slopes	Moderately well drained; nearly level to gently sloping	40-50	1-4	Sand pine, scrub oak, longleaf pine, rosemary, turkey oak, fetterbush, saw palmetto	Xeric
Myakka fine sand	Poorly drained, nearly level	<12	6	Slash pine, longleaf pine, saw palmetto, wiregrass	Inclusion
Pomona sand, 0-2% slopes	Poorly or very poorly drained	10-40	6	Slash pine, longleaf pine, saw palmetto, wax myrtle, pineland threeawn	--
Smyrna fine sand	Poorly drained, nearly level	<10	1-4	Slash pine, runner oak, saw palmetto, wiregrass	Inclusion

I-95 Interchange at Pioneer Trail



Vegetation and Land Cover Map

- | | | | | | | |
|---------------------------|----------------------------|----------------------------------|----------------------------|---------------------|---------------------|-------------------|
| ETDM Alternative Polygon | Not Classified | Hardwood Hammocks and Forests | Bay Swamp | Mangrove Swamp | Unimproved Pasture | Brazilian Pepper |
| ETDM Alternative Segment | Coastal Strand | Pinelands | Cypress Swamp | Scrub Mangrove | Sugarcane | High Impact Urban |
| ETDM Alternative Terminus | Sand/Beach | Cabbage Palm-Ive Oak Hammock | Cypress/Pine/Cabbage Palm | Tidal Flats | Citrus | Low Impact Urban |
| ETDM Alternative Point | Xeric Oak Scrub | Tropical Hardwood Hammock | Mixed Wetland Forest | Open Water | Row and Field Crops | Extractive |
| Major Road | Sand Pine Scrub | Freshwater Marsh and Wet Prairie | Hardwood Swamp | Shrub and Brushland | Other Agriculture | |
| Local Road or Trail | Sandhill | Sawgrass Marsh | Hydric Hammock | Grassland | Exotic Plants | |
| | Dry Prairie | Cattail Marsh | Bottomland Hardwood Forest | Bare Soil/Clearcut | Australian Pine | |
| | Mixed Hardwood-pine Forest | Shrub Swamp | Salt Marsh | Improved Pasture | Melaleuca | |

Data Sources:
 NAVTEQ; Florida Department of Transportation; Florida Fish and Wildlife Conservation Commission

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2.9.4 Physical Impacts

Air Quality

The Clean Air Act (CAA), passed in 1970, regulates air emissions and authorizes the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. Under the Clean Air Act, the EPA sets limits for six principal air pollutants including carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. Areas of the country where air pollution levels persistently exceed the national ambient air quality standards may be designated “nonattainment.” A “maintenance” area is an area that previously did not meet air quality standards but is currently meeting and maintaining the NAAQS.

As illustrated in **Figure 2-18**, the interchange study area has been designated in compliance with federal air quality standards for all listed pollution criteria pollutants. Air quality impacts during construction would primarily be emissions from diesel-powered construction equipment and dust from embankments and haul roads. Airborne particles can be controlled through the use of watering or the application of other controlled materials in accordance with FDOT’s *Standard Specifications for Road and Bridge Construction*.

Noise / Vibration

Some of the most pervasive sources of noise in the environment come from transportation systems. Highway traffic noise is a dominant noise source in urban and rural environments. In response to the problems associated with highway traffic noise, the United States Code of Federal Regulations Part 772 (23 CFR 772), "Procedures for Abatement of Highway Traffic Noise and Construction Noise," establishes standards for abatement of highway traffic noise.

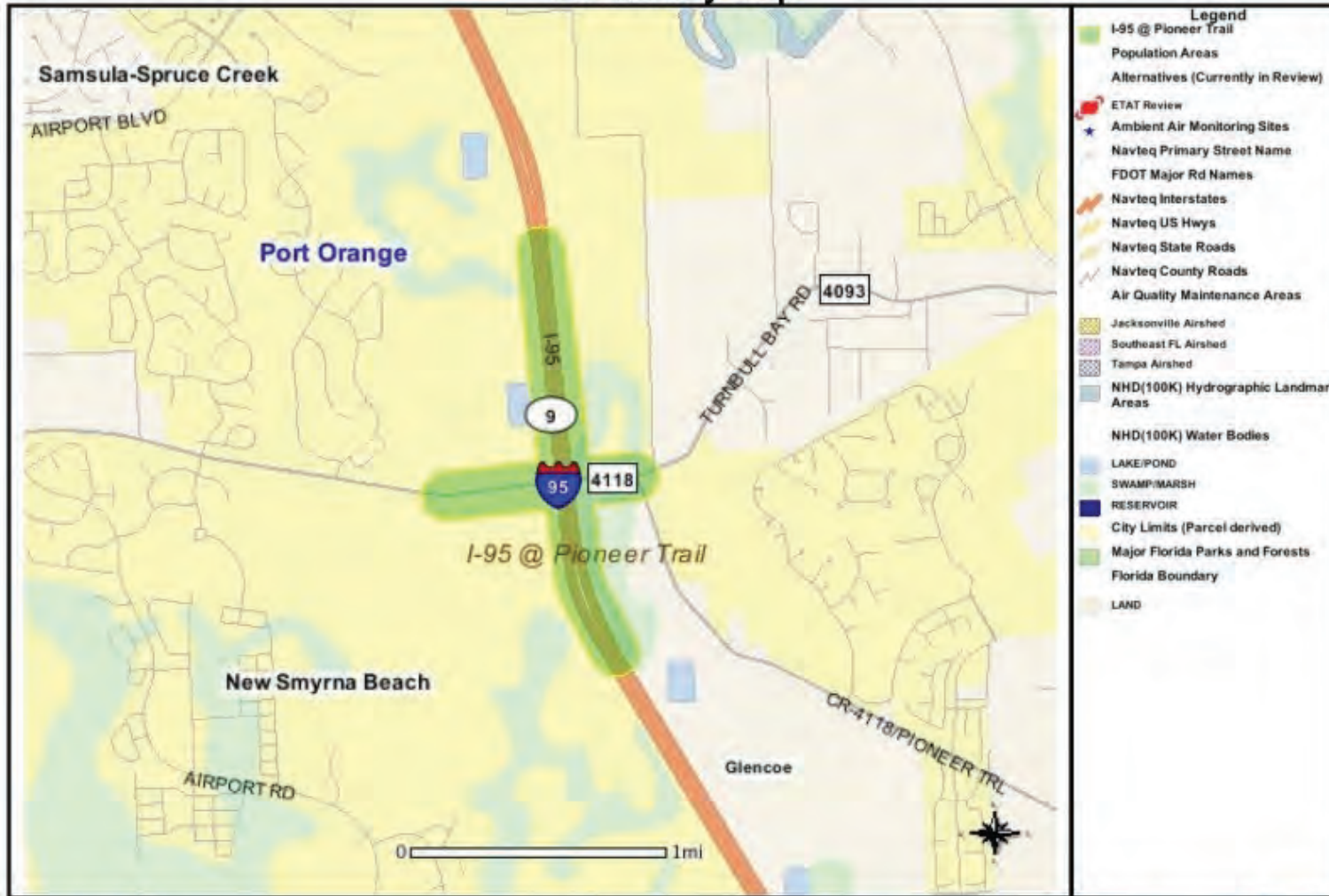
A review of local aerials indicated that there are a few wildlife refuges located at a distance of less than 100 feet from the northern and southern edge of the Pioneer Trail corridor (see **Figure 2-19**). During the construction phase, short-term noise and vibration would be generated by construction equipment. Construction noise and vibration could disturb and displace plant and animal species, cause temporary loss of food/prey items, and locally disrupt or destroy terrestrial habitats in the construction zone; however this can be controlled by adherence to FDOT’s *Standard Specifications for Road and Bridge Construction*. Noise levels generated from the proposed interchange will be fully evaluated and documented in the PD&E Study in accordance with FDOT and FHWA procedures. If

noise levels approach or exceed noise abatement criteria, then appropriate noise abatement measures will be recommended to mitigate any impacts.

Contamination

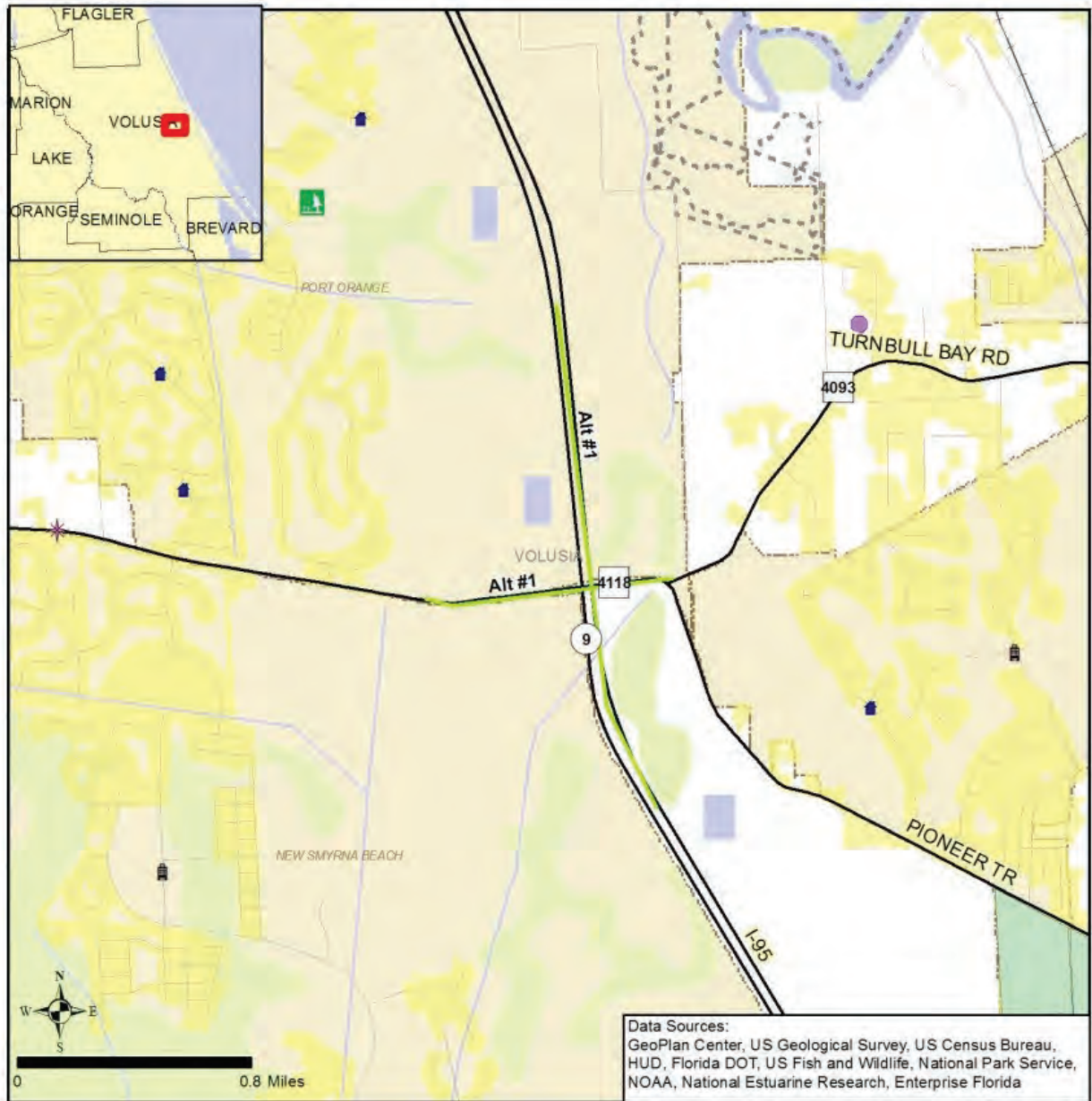
To determine potential contamination sites within the interchange corridor, data was collected from the Florida Department of Environmental Protection (FDEP). Common sources of contamination include gas stations, automobile repair shops, drycleaners, and printing facilities. No facilities of these types are evident in the project study area. In rural agricultural and ranching areas, common contamination sources include pump stations (which have an Above-ground Storage Tank (AST) for fuel), pesticide/herbicide tanks and mixing areas, and farm equipment storage and repair areas. No facilities of these types are evident in the Contamination Assessment Map as illustrated in **Figure 2-20**. The only FDEP tanks evident are located outside the AOI at the northwest and southeast corner of the map below.

Air Quality Map



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I-95 Interchange at Pioneer Trail



Data Sources:
GeoPlan Center, US Geological Survey, US Census Bureau,
HUD, Florida DOT, US Fish and Wildlife, National Park Service,
NOAA, National Estuarine Research, Enterprise Florida

Noise Map

- | | | | | |
|-----------------------------|-----------------------------|-------------------------|-----------------------------|----------------------------|
| ● ETDM Alternative Point | - Existing Trails | ● Laser On-site | ✳ Place of Worship | ■ Military Installations |
| — ETDM Alternative Segment | — Railroad | ● Group Care Facilities | ● School | ■ Industrial |
| ■ ETDM Alternative Polygon | — River, Stream or Canal | ● Cemetery | ■ Historic Cemetery | ■ Residential |
| ● ETDM Alternative Terminus | ■ Water Body | ● Community Center | ■ Planned Unit Developments | ■ HUD Renewal |
| ▭ County Boundaries | ■ Swamp/Marsh | ● Cultural Center | ■ Wildlife Refuges | ■ Nat'l Estuarine Reserves |
| ▭ City Limits | ■ Airport | ● Health Care | ■ National Parks | ■ Enterprise Zones |
| — Major Road | ■ Condo Owners Associations | ● Park | ■ National Park Projects | ■ DRI |
| — Local Road or Trail | ■ Hospitals | | | |
| ■ Noise Barriers | | | | |

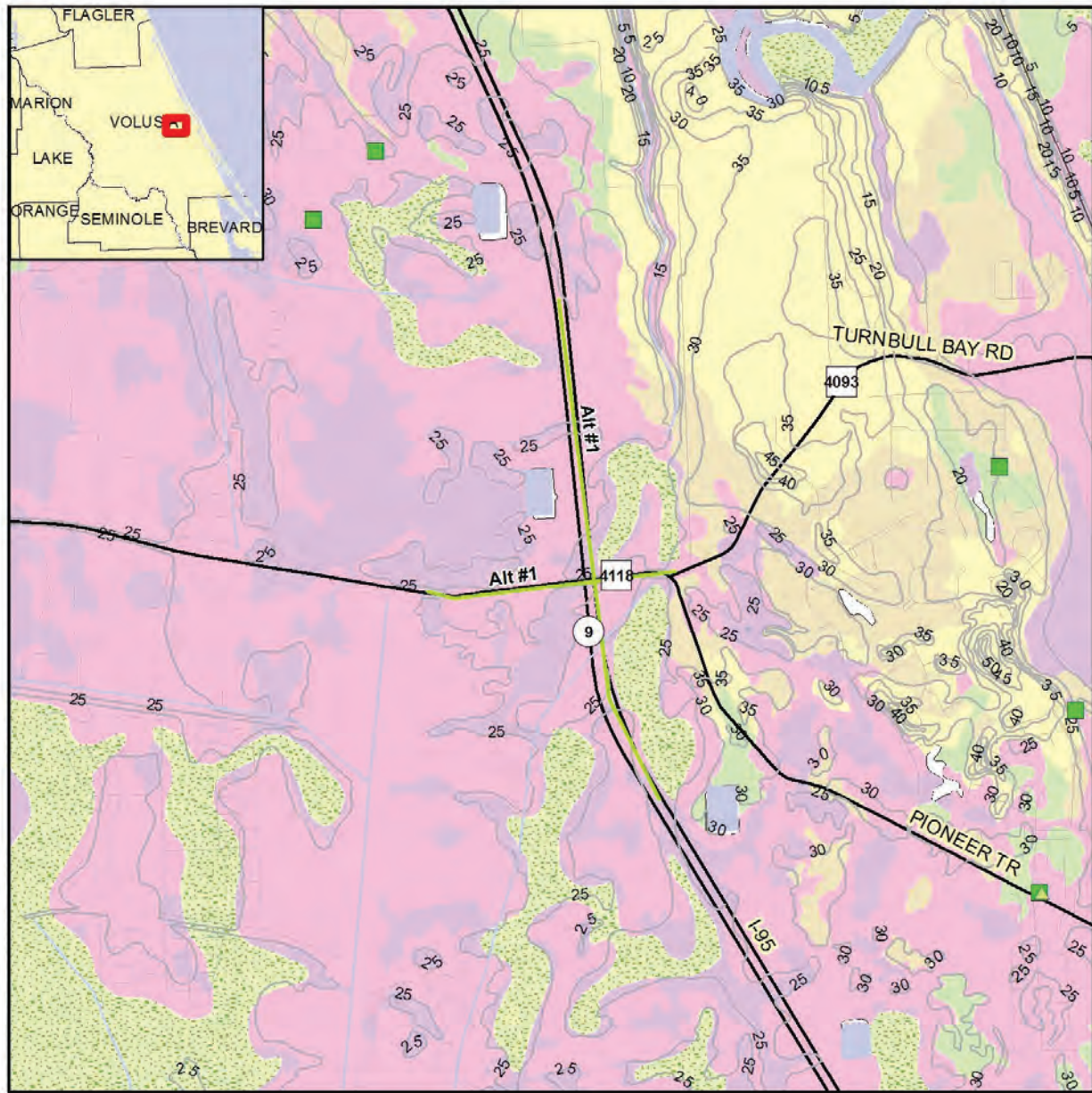
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I-95 Interchange at Pioneer Trail



Potential Contamination Assessment Map

<ul style="list-style-type: none"> ● ETDM Alternative Point ● ETDM Alternative Terminus — ETDM Alternative Segment ■ ETDM Alternative Polygon — Major Road 	<ul style="list-style-type: none"> — Local Road or Trail — Railroad — River, Stream or Canal ● Toxic Release Inventory ★ Dry Cleaning Facility ● Solid Waste Facility 	<ul style="list-style-type: none"> ■ NPL Remediation Site ▲ Hazardous Material Site ■ Power Plant ● Superfund Site ● Nuclear Site 	<ul style="list-style-type: none"> ■ FDEP Tanks ■ Brownfield Area — 5 FT Contour ■ Water Body ■ Swamp/Marsh 	<p>Soil Drainage</p> <ul style="list-style-type: none"> ■ Excessively Drained ■ Somewhat Excessively Drained ■ Moderately Well Drained ■ Well Drained ■ Somewhat Poorly Drained ■ Poorly Drained ■ Very Poorly Drained □ Unclassified
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Data Sources: NAVTEC; US Geological Survey; FL Department of Transportation; FL Department of Environmental Protection; FL Water Management Districts; US Environmental Protection Agency; Natural Resource Conservation Service
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etdm Efficient Transportation Decision Making **est** Environmental Screening Tool **FDOT** Florida Department of Transportation

Map Generated on: 10/7/2014

DATE CREATED: 1/15/2015

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange
Volusia County

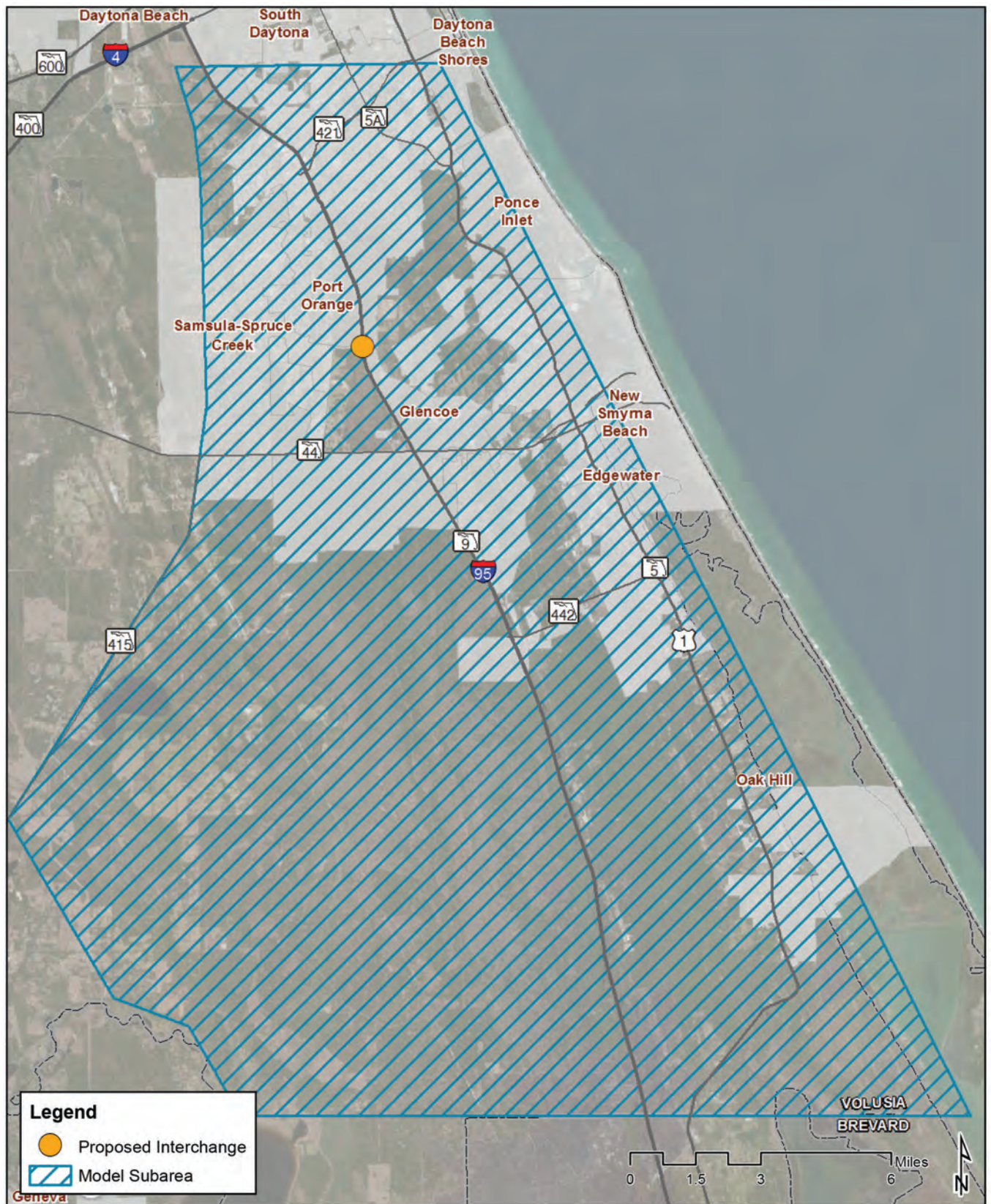
FIGURE 2-20
Contamination Assessment Map

3.0 Travel Demand Forecasting

The area of influence (AOI) of the study extends to the SR 44 interchange to the south and to the SR 421 interchange to the north. Other roadways within the AOI as shown in **Figure 1-1** include SR 44 from CR 415 to Sugar Mill Drive, Pioneer Trail from Airport Road to Sugar Mill Drive, Turnbull Bay Road from Pioneer Trail to Williams Road, and SR 421 from Summer Trees Boulevard to Clyde Morris Boulevard.

The traffic model applied for this study was based on the Central Florida Regional Planning Model version 5.1 (CFRPM 5.1) with Florida Standard Urban Transportation Model Structure (FSUTMS) compliance. CFRPM 5.1 is utilized for the regional transportation analysis in forecasting and evaluating future travel demand for the FDOT District 5 study area, which includes Brevard, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia Counties. The model was developed in accordance with the Long Range Transportation Plans (LRTP) from across FDOT District 5, which was validated for a base year of 2005. Since the CFRPM model covers a large metropolitan area, a sub-area validation model was developed to refine the predictive accuracy of the model for travel forecasting applications for the base year 2010 data and future year traffic volume projections. The sub-area for the study is included in **Figure 3-1**.

The base year (2010) model validation was completed as part of the FDOT District Five I-95 SOAR project and was further fine-tuned to represent the existing conditions of the Pioneer Trail IJR expanded sub-area. The network modifications done for the sub-area as part of the model validation are listed below. The model refinement was performed by fine-tuning the network using the guidelines identified in the “FDOT Project Traffic Forecasting Handbook (2014)”. The handbook establishes recommended standards for volume over count ratios for divided and undivided arterials at $\pm 15\%$, and collectors at $\pm 25\%$. The document also establishes that the maximum acceptable Percent Root Mean Square Error (RMSE) for the area should be no more than 45%.



DATE CREATED: 1/15/2015

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 3-1
Model Subarea

3.1 Year 2010 Base Model Validation Adjustments

A reasonableness check was conducted for the 2010 base model network within the study area. The following section briefly describes this process.

3.1.1 Year 2010 Traffic Counts and Model Volumes

The year 2010 Annual Average Daily Traffic (AADT) counts for individual roadway segments were obtained from the Florida Transportation Information 2010 (FTI 2010) database and Volusia County. The Peak Season Weekly Average Daily Traffic (PSWADT) obtained from the Central Florida Regional Planning Model (CFRPM 5.1) was converted to AADT using the 2010 MOCF to each corresponding roadway.

3.1.2 Year 2010 Socio-Economic Data

The base year 2010 socio-economic data developed for CFRPM 6.0 was provided by the FDOT District Five for use in this study. The new data set obtained from the Department was adjusted to the existing model zonal structure and a data comparison was completed for reasonableness to use for the base year condition. Interpolation was utilized for each Traffic Analysis Zone to capture individual growth or lack of growth within each TAZ.

3.2 Year 2010 Model Network Changes

The following network adjustments were made to the year 2005 model to replicate year 2010 conditions:

- Tomoka Farms Road segment between LPGA Boulevard and Bellevue Avenue was added to the network;
- The facility type was adjusted from 32 to 35 for Williamson Blvd between LPGA Boulevard and US 92;
- The facility type for Old Mission Road was adjusted from 41/42 to 35 between Old Mission SR 44 and SR 442;
- The facility type for Clyde Morris Blvd was adjusted from 23 to 22 between SR 400 and Taylor Road;
- SR 44 between Pioneer Trail and I-4 was modified from a 2-lane road to 4-lane divided facility;

- Williamson Road between Taylor Road to Airport Road was modified from a 2-lane road to a 4-lane divided facility;
- The facility type for Taylor Road was adjusted from 31 to 32 between CR 415 and Williamson Boulevard;
- The facility type for Tomoka Farms Road was adjusted from 31/32 to 33 between Tylor Road to and Fort Smith Road;
- Tomoka Farms Road speed limit was adjusted from 50 mph to 45 mph between Tylor Road and SR 44;
- The facility type for US 1 was modified from 23 to 21 between SR 44 and Volco Road;
- The facility type for US 92 was modified from 21 to 24 and the speed limit was adjusted from 65 mph to 55 mph between Big John Drive and I-4; and
- Centroid connectors for zones 1810-1814, 1820, 1821, 2157, 2176, and 2184 were moved to match local roadway network accessibility.

The 2010 highway network showing nodes and maps depicting before and after the validation model volumes are included in report **Appendix F**.

3.3 Model Validation Results

The validation of a traffic model involves verifying the accuracy of the model generated volumes using various statistical means against actual traffic counts taken on network links throughout the sub-area. Two measures of effectiveness are used to assess the validation effort: the ratio of assigned volume to count volume on individual roadway links; and an area-wide Percent Root Mean Square Error (RMSE). These measures evaluate whether the year 2010 base model is a valid predictor of trips when compared against actual traffic counts within acceptable statistical tolerances.

3.3.1 Ratio of Volume to Counts

The model volume to traffic count ratios (v/c) within the study area are summarized in **Table 3-1**. Based on the data presented, it can be seen that there was an overall improvement in the model's performance based on the volume to capacity ratio. Before validation, the V/C ratio was 1.35; after validation, a 0.97 ratio was achieved. A V/C ratio of 1.0 indicates a very good match between the validation count data and the model's volume forecast for that year.

Table 3-1: Comparison of Model Volume and Traffic Counts (V/C Ratios)

Roadway	Segment	FTI SITE	Year 2010 FDOT AADT	2010 Model AADT Before Validation	2010 Model AADT After Validation	Volume / Count (Before)	Volume / Count (After)
I95	S. of I-4/SR 400	790492	51,000	64,783	47,231	1.27	0.93
	S. of Tylor Road/CR 421	790133	38,017	62,389	41,830	1.64	1.10
	S. of SR 44	790503	32,000	60,385	38,563	1.89	1.21
US 1	S. of SR 421 / Dunlawton Avenue	795057	20,100	27,173	18,930	1.35	0.94
	N. of Nova Road	790152	15,800	21,420	14,403	1.36	0.91
	S. of Nova Road	790013	20,100	38,379	23,425	1.91	1.17
	N. of Turnbull Bay Road	795159	22,500	37,227	24,891	1.65	1.11
	N. of Canal Street	795155	23,500	34,762	29,955	1.48	1.27
	S. of West Park Avenue	795168	28,000	24,061	26,168	0.86	0.93
	S. of SR 442	790027	20,000	18,559	21,755	0.93	1.09
	S. of Volco Road	799929	11,440	15,218	10,057	1.33	0.88
	N. of Halifax Avenue	790002	5,500	8,732	4,648	1.59	0.85
	N. of Kennedy Parkway	790531	3,500	7,508	3,958	2.15	1.13
Turnbull Bay Road	E. of White Road Madeline Ave to Willow Run Blvd	797008	2,000	1,680	1,045	0.84	0.52
Clyde Morris Boulevard	Willow Run Boulevard to SR 421	County	22,130	19,950	22,117	0.90	1.00
	SR 421 to Taylor Road	County	19,890	16,226	18,914	0.82	0.95
		County	10,530	2,416	7,076	0.23	0.67
Taylor Road/CR 421	E of Tomoka Farms Road	797072	7,100	12,100	6,859	1.70	0.97
		797073	9,300	14,316	9,396	1.54	1.01
SR 421/Dunlawton Avenue	N. of Taylor Road	790517	36,500	37,406	30,338	1.02	0.83
	W. of Nova Road/ SR 5A	791014	31,500	40,737	28,245	1.29	0.90
	E. of Nova Road / SR 5A	791015	30,500	35,264	25,704	1.16	0.84
CR 5A / Nova Road	N. of SR 421/Dunlawton Avenue	791017	27,000	31,501	21,438	1.17	0.79
	S. of SR 421 /Dunlawton Avenue	791016	25,500	28,729	23,754	1.13	0.93
Pioneer Trail	E. of Spruce Creek Road Tomoka Farms Rd to Airport Road	790458	16,900	24,770	17,162	1.47	1.02
	Airport Rd to Turnbull Bay Road	County	3,660	4,931	3,434	1.35	0.94
	Sugar Mill Dr. to Williams Road	County	2,710	5,310	3,104	1.96	1.15
Airport Road	N. of Pioneer Trail	County	3,920	4,562	2,144	1.16	0.55
SR 44	N. of Pioneer Trail	797098	4,700	6,380	5,538	1.36	1.18
	E. of I-95	790515	22,500	30,265	17,769	1.35	0.79
	E of Samsula Drive	790423	17,700	22,594	13,551	1.28	0.77
Old Mission Road		791012	17,300	21,983	13,186	1.27	0.76
	SR 44 to Josephine Street	County	12,420	12,664	8,919	1.02	0.72
	Josephine Street to Park Avenue	County	6,920	7,518	5,689	1.09	0.82
SR 442	E. of I-95	790170	9,264	22,057	9,131	2.38	0.99

Williamson Boulevard	N. of Madeline Avenue	797081	13,800	25,019	12,683	1.81	0.92
	S. of Taylor Road	797100	8,200	13,459	14,308	1.64	1.74
Tomoka Farms Road	US 92 to Shurz Road	County	5,920	12,032	6,761	2.03	1.14
	Town W. Blvd to Taylor Road	County	5,970	10,541	5,855	1.77	0.98
	Taylor Road to Pioneer Trail	County	9,180	15,983	9,391	1.74	1.02
	S. of SR 44	791009	7,300	18,562	9,098	2.54	1.25
Total			681,771	919,550	658,426	1.35	0.97

Table 3-2 presents a comparison of percent error for before and after model validation conditions for each of the facility types. The validation satisfied preferable percent errors by facility type.

Table 3-2: Percent Error by Facility Type

	FDOT Standards *		Before	After
	Acceptable	Preferable		
Freeway (FT1X,FT8X,FT9X)	+/- 7%	+/- 6%	54.98%	5.46%
Divided Arterial (FT2X)	+/- 15%	+/- 10%	23.88%	-6.79%
Undivided Arterial (FT3X)	+/- 15%	+/- 10%	85.34%	-4.18%
Collector (FT 4X)	+/- 25%	+/- 20%	26.89%	17.40%
One-Way(FT6X)	+/- 25%	+/- 20%	N/A	N/A

In addition, the percent deviation error by volume groups were also calculated and included in **Table 3-3**. The percent error by each volume group are within acceptable statistical tolerances for model validation.

Table 3-3: Percent Error by Volume Group

Statistic	FDOT Standards *		Before	After
	Acceptable	Preferable		
LT 10,000 Volume	50%	25%	74.13%	5.48%
10,000-30,000	30%	20%	23.37%	-5.71%
30,000-50,000	25%	15%	40.15%	-2.28%
50,000-65,000	20%	10%	27.03%	-7.39%
65,000-75,000	15%	10%	N/A	N/A
GT 75,000	10%	5%	N/A	N/A

3.3.2 Root Mean Square Error (RMSE)

The percent RMSE for the study area is another aggregate measure of how well the model has been validated against the ground counts within the study area. The RMSE for the study modeling

influence area is 2.76%, which is much better than the acceptable value of 45% as shown in **Table 3-4**. This measure shows that the refined 2010 network model with an enhanced study area roadway network generates traffic volumes that reasonably replicate base year traffic counts.

Table 3-4: Influence Area RMSE

Volume Group	% RMSE	Acceptable % RMSE	Preferable % RMSE
1-5,000:	12.17%	100%	45%
5,000-10,000:	9.33%	45%	35%
10,000-15,000:	12.53%	35%	27%
15,000- 20,000:	7.78%	30%	25%
20,000- 30,000:	5.05%	27%	15%
30,000- 50,000:	7.54%	25%	15%
50,000- 60,000:	7.39%	20%	10%
60,000+:	N/A	19%	10%
Areawide	2.76%	45%	35%

* FSUTMS - Cube Framework Phase II Model Calibration and Validation Standards

3.4 Model Validation Summary

The model validation results clearly show that the network refinements yield acceptable traffic volumes to replicate the base validation year traffic counts. The model is considered validated for use in estimating future travel demand within the study area. The validated network adjustments will be carried over to the Year 2035 model network to achieve better results in forecasting the Year 2042 traffic for roadways within the study area.

3.5 Future Development Plans

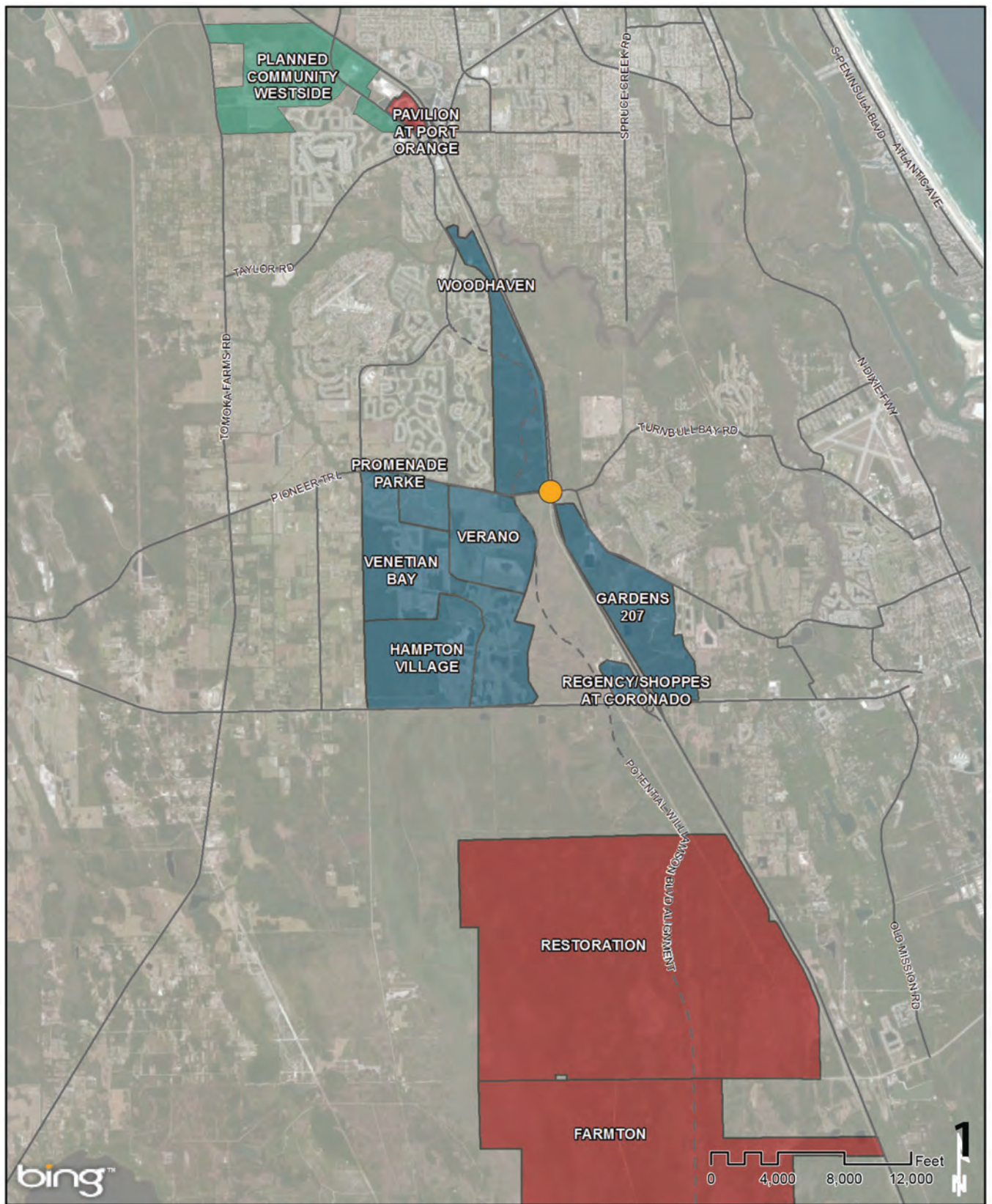
There were several future developments identified within the study boundaries. Volusia County envisions significant growth from base year 2010 through the design year 2042. The City of New Smyrna Beach has annexed all of the land west of I-95 to Airport Road into the city limits. The City also expanded the commercial nodes around the SR 44 interchange for future development ventures. Residential developments planned for the near future located within the study boundaries are presented in **Table 3-5** and depicted in **Figure 3-2**. Residential developments located to the west of I-95 include Venetian Bay PUD with 1,823 residential units and a neighborhood retail center, Hampton Village PUD with 1,113 residential units, Woodhaven PUD with 1,441 residential units and

650,000 sq. ft. of commercial space. Developments to the east of I-95 in the vicinity of the proposed interchange include, Gardens 207 PUD with 1,250 residential units and 356,000 sq. ft. commercial holdings. Within the immediate vicinity of the Pioneer Trail interchange, approximately 5,486 residential dwelling units and approximately 1,116,000 sq. ft. non-residential uses were identified.

A trip generation estimate of these surrounding developments consisting of 20,155 residential dwelling units, and 2,895,523 square feet of commercial activity is expected to generate approximately 253,418 daily trips, with approximately 65,670 of those trips slated to occur over the next five (5) years. Some of these developments are currently under construction or ready for construction in the next two years. Complete build-out of these developments was included in the future year analysis.

Table 3-5: Planned Developments in Vicinity of Proposed Interchange

Development	Residential (DU)	Non-Residential (sq. ft)	Hotel (rooms)	Current Build Out %
Farmton DRI	4,692	820,217	0	0%
Restoration DRI	9,866	194,306	0	0%
Gardens 207 PUD	1,250	356,000	98	0%
Regency/Shoppes at Coronado PUD	0	350,000	0	40-60%
Venetian Bay PUD	1,823	110,000	0	40-50%
Hamton Village PUD	1,113	0	0	0%
Verano PUD	190	0	0	0%
Promenade Parke PUD	293	0	0	0%
Woodhaven PUD	1,300	650,000	0	0%
Pavilion at Port Orange DRI	0	800,000	0	40-60%
Planned Community Westside CPA	1,082	490,000	0	40-60%



DATE CREATED: 1/15/2015

PROJECT NUMBER: 12-097.02

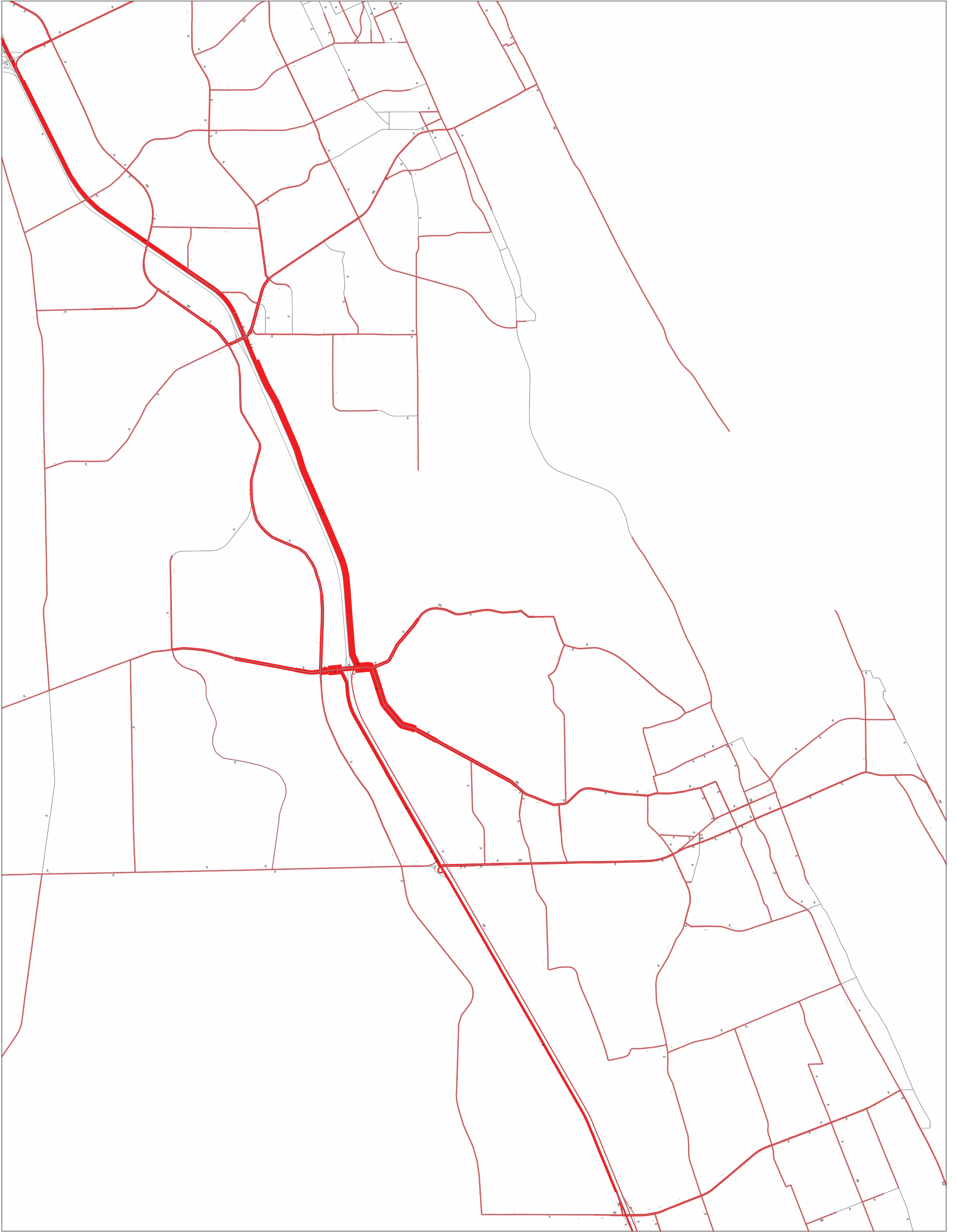
I-95 at Pioneer Trail Interchange Volusia County

FIGURE 3-2
Future Developments

3.6 Select Link Analysis

The 2035 CFRPM model was used to perform select link analyses for the northbound on-ramp and the southbound on-ramp at the proposed interchange. The select link analysis was used to establish estimates of the anticipated volume of traffic from each traffic analysis zone (TAZ) that would use the proposed new interchange. The select link analysis also tracks how far upstream from the interchange they travel to prove that the proposed interchange serves intra- and inter-regional travel. **Figure 3-3** depicts the results of the select link analysis for the two ramps.

Based on the select link analysis, nearly 67 percent of motorists using the northbound on-ramp would travel beyond the SR 421 interchange to the City of Daytona Beach. Interchange-to-interchange trips traversing the approximately 4.2-mile segment between Pioneer Trail and SR 421 would only be 33 percent of the ramp volumes. The majority of the local trips originating from the west side of I-95 and travelling north are projected to use Williamson Boulevard. The select link analysis for the southbound on-ramp movement indicates that approximately 74 percent of the motorists travel beyond the SR 44 interchange. Additionally, 38 percent of the southbound on-ramp movements travel farther south of the SR 442 interchange, which is approximately 10 miles south of the proposed Pioneer Trail interchange, into Brevard County.



3.7 Future Traffic Projections

The development of traffic projections for the study required the examination of historical growth, population projections, proposed development levels within the corridor vicinity, and a basic understanding of local traffic circulation patterns and travel characteristics of the corridor.

3.7.1 Design Period

As per the approved MLOU, the following forecast years were used to develop the future year traffic volume forecasts and roadway and intersection traffic operations analysis for the study corridor. Future traffic projections were developed for the No Build Alternative which represents the future conditions without the Pioneer Trail interchange and the Build Alternative which includes the proposed Pioneer Trail interchange.

- Opening year 2022;
- Interim year 2032; and
- Design year 2042.

3.7.2 Future Travel Demand

The development of future year traffic forecasts typically involves using a combination of growth rates based on historical traffic counts, population growth trends, and traffic volume projections predicted by the enhanced travel forecasting model. Due to the anticipated growth, roadway network changes, and good model validation results in the study area, the CFRPM projections were considered to be the preferred tool to estimate the future growth and traffic redistribution.

3.7.3 CFRPM Model Projections

The CFRPM year 2035 LRTP Cost Feasible Highway Network model was used in predicting traffic projections for the study corridor. Model enhancements applied during the validation process were applied to the future year highway network. Both Build and No Build alternative traffic demand model runs were completed in order to develop applicable linear growth projections for the Opening year (2022), Interim year (2032), and Design year (2042) for the segments with and without the Pioneer Trail interchange.

The CFRPM model based traffic projections for the No Build and Build Alternatives were analyzed for reasonableness. Model growth rates were utilized in developing the future year AADTs. Minor adjustments were done as necessary to avoid inconsistencies in projections and to attain reasonable growth projections. The projected growth rates for the individual study segments for the No-Build and Build Alternatives are shown in **Tables 3-6 and 3-7**. These projected AADTs were further adjusted along the mainline to obtain balanced volumes.

Table 3-6: No Build Alternative - Growth Rates
I-95/Pioneer Trail Interchange Justification Report

Roadway / Segment	AADT 2013	2010 Validated Model	2042 Model	Growth Rate	Projected AADT - No Build		
					2022	2032	2042
Mainline Characteristics							
I-95							
South of SR 44	32,900	39,000	118,000	6.33%	52,000	72,000	93,000
North of SR 44	36,900	42,000	126,000	6.25%	57,000	79,000	101,000
North of Pioneer Trail	36,900	42,000	-	-	-	-	-
North of SR 421	48,100	47,000	118,000	4.72%	69,000	91,000	114,000
Average				5.77%			
SR 421							
West of Summer Trees Rd	14,010	9,400	19,000	1.23%	16,000	17,000	19,000
West of Williamson Blvd	16,900	13,000	23,000	1.24%	19,000	21,000	23,000
West of I-95	35,490	36,000	60,000	2.38%	43,000	52,000	60,000
East of I-95	45,500	41,000	66,000	1.55%	52,000	59,000	66,000
East of Taylor Rd	38,000	30,300	49,000	1.00%	41,000	45,000	49,000
East of Yorktowne Blvd	36,000	31,200	50,000	1.34%	40,000	45,000	50,000
East of Clyde Morris Blvd	28,500	30,000	41,000	1.51%	32,000	37,000	41,000
Average				1.47%			
SR 44							
West of Tomoka Farms Rd	12,200	11,000	29,000	4.75%	17,000	23,000	29,000
West of Airport Rd	15,700	14,000	40,000	5.34%	23,000	32,000	40,000
West of Williamson Blvd	20,500	14,000	41,000	3.45%	27,000	34,000	41,000
West of I-95	18,300	14,000	53,000	6.54%	29,000	41,000	53,000
East of I-95	30,000	18,000	47,000	1.95%	35,000	41,000	47,000
East of Sugar Mill Dr	30,000	17,000	40,000	1.15%	33,000	37,000	40,000
Average				3.86%			
Pioneer Trail							
West of Airport Rd	3,670	3,500	16,000	11.59%	7,500	12,000	16,000
West of Williamson Blvd	2,830	3,800	15,000	14.83%	6,600	11,000	15,000
West of I-95	2,830	3,800	22,000	23.36%	8,800	15,000	22,000
East of I-95	2,830	3,800	22,000	23.36%	8,800	15,000	22,000
East of Turnbull Bay Rd	3,040	4,300	13,000	11.30%	6,100	9,600	13,000
East of Sugar Mill Dr	4,710	1,900	13,000	6.07%	7,300	10,000	13,000
Average				15.08%			
Turnbull Bay Rd							
West of Shadow Pines Dr	2,200	1,100	6,200	6.27%	3,400	4,800	6,200
East of Shadow Pines Dr	2,100	1,100	6,200	6.73%	3,400	4,800	6,200
West of Williams Rd	2,860	2,400	5,300	2.94%	3,600	4,500	5,300
East of Williams Rd	3,140	2,800	8,900	6.33%	4,900	6,900	8,900
Average				5.57%			
Williamson Blvd							
North of SR 421	16,480	16,000	58,000	8.69%	29,000	44,000	58,000
South of SR 421	18,900	15,000	45,000	4.76%	27,000	36,000	45,000
North of Pioneer Trail	0	0	19,000		9,000	14,000	19,000
South of Pioneer Trail	0	0	12,000				12,000
North of SR 44	0	0	12,000				12,000
South of SR 44	0	0	22,000			19,000	22,000
Average				6.72%			
Taylor Rd							
South of SR 421	9,000	13,000	17,000	0.96%	9,900	11,000	12,000
Average				0.96%			
York Towne Blvd							
North of SR 421	6,780	5,600	10,000	1.64%	7,800	8,900	10,000
South of SR 421	6,100	0	9,000	1.64%	7,000	8,000	9,000
Average				1.64%			

Roadway / Segment	AADT 2013	2010 Validated Model	2042 Model	Growth Rate	Projected AADT - No Build		
					2022	2032	2042
Mainline Characteristics							
Clyde Morris Blvd							
North of SR 421	19,000	21,000	28,000	1.04%	21,000	23,000	25,000
South of SR 421	9,000	7,500	11,000	1.46%	10,000	12,000	13,000
Average				1.25%			
Tomoka Farms Rd							
North of SR 44	5,260	7,200	19,000	5.12%	7,700	10,000	13,000
South of SR 44	9,000	9,100	28,000	6.49%	14,000	20,000	26,000
Average				5.81%			
Sugar Mill Dr							
North of SR 44	2,760	3,500	14,000	9.38%	5,000	7,500	10,000
South of Pioneer Trail	2,760	3,000	4,100	1.64%	3,200	3,600	4,100
North of Pioneer Trail	3,300		4,900	1.64%	3,800	4,300	4,900
Average				4.22%			
Airport Rd							
North of SR 44	2,770	-	5,700	3.65%	3,700	4,700	5,700
North of Pioneer Trail	6,040	6,400	18,000	6.83%	9,800	14,000	18,000
South of Pioneer Trail	3,320	-	5,700	2.47%	4,100	4,900	5,700
Average				4.32%			
Summer Trees Rd							
North of SR 421	4,600	-	6,800	1.64%	5,300	6,000	6,800
South of SR 421	1,600	-	2,400	1.64%	1,800	2,100	2,400
Average				1.64%			
Shadow Pines Dr							
South of Turnbull Bay Rd	170	-	250	1.64%	190	220	250
Average				1.64%			
Williams Rd							
South of Turnbull Bay Rd	1,490	800	6,600	11.83%	3,100	4,800	6,600
Average				11.83%			

BEBR High Growth Rate

Model to Model Growth Rate

Model to Existing Growth Rate

Population Analysis - BEBR Estimates

	Year 2013	Year 2040	Annual Growth
Volusia - Low Projection	498,978	470,100	-0.21%
Volusia - Medium Projection	498,978	595,100	0.71%
Volusia - High Projection	498,978	720,000	1.64%

Table 3-7: Build Alternative - Growth Rates
I-95/Pioneer Trail Interchange Justification Report

Roadway / Segment	AADT 2013	2010 Validated Model	2042 Model	Growth Rate	Projected AADT - Build		
					2022	2032	2042
Mainline Characteristics							
I-95							
South of SR 44	32,900	39,000	117,000	6.25%	52,000	72,000	93,000
North of SR 44	36,900	42,000	121,000	5.88%	56,000	78,000	100,000
North of Pioneer Trail	36,900	42,000	132,000	6.70%	58,000	81,000	104,000
North of SR 421	48,100	47,000	119,000	4.79%	69,000	92,000	115,000
Average				5.90%			
SR 421							
West of Summer Trees Rd	14,010	9,400	19,000	1.23%	16,000	17,000	19,000
West of Williamson Blvd	16,900	13,000	23,000	1.24%	19,000	21,000	23,000
West of I-95	35,490	36,000	60,000	2.38%	43,000	52,000	60,000
East of I-95	45,500	41,000	66,000	1.55%	52,000	59,000	66,000
East of Taylor Rd	38,000	30,300	49,000	1.00%	41,000	45,000	49,000
East of Yorktowne Blvd	36,000	31,200	50,000	1.34%	40,000	45,000	50,000
East of Clyde Morris Blvd	28,500	30,000	41,000	1.51%	32,000	37,000	41,000
Average				1.47%			
SR 44							
West of Tomoka Farms Rd	12,200	11,000	29,000	4.75%	17,000	23,000	29,000
West of Airport Rd	15,700	14,000	40,000	5.34%	23,000	32,000	40,000
West of Williamson Blvd	20,500	14,000	41,000	3.45%	27,000	34,000	41,000
West of I-95	18,300	14,000	49,000	5.78%	28,000	38,000	49,000
East of I-95	30,000	18,000	44,000	1.61%	34,000	39,000	44,000
East of Sugar Mill Dr	30,000	17,000	40,000	1.15%	33,000	37,000	40,000
Average				3.68%			
Pioneer Trail							
West of Airport Rd	3,670	3,500	16,000	11.59%	7,500	12,000	16,000
West of Williamson Blvd	2,830	3,800	15,000	14.83%	6,600	11,000	15,000
West of I-95	2,830	3,800	23,000	24.58%	9,100	16,000	23,000
East of I-95	2,830	3,800	23,000	24.58%	9,100	16,000	23,000
East of Turnbull Bay Rd	3,040	4,300	16,000	14.70%	7,100	12,000	16,000
East of Sugar Mill Dr	4,710	1,900	12,000	5.34%	7,000	9,500	12,000
Average				15.93%			
Turnbull Bay Rd							
West of Shadow Pines Dr	2,200	1,100	7,600	8.46%	3,900	5,700	7,600
East of Shadow Pines Dr	2,100	1,100	7,600	9.03%	3,800	5,700	7,600
West of Williams Rd	2,860	2,400	4,900	2.46%	3,500	4,200	4,900
East of Williams Rd	3,140	2,800	8,400	5.78%	4,800	6,600	8,400
Average				6.43%			
Williamson Blvd							
North of SR 421	16,480	16,000	58,000	8.69%	29,000	44,000	58,000
South of SR 421	18,900	15,000	43,000	4.40%	26,000	35,000	43,000
North of Pioneer Trail	0	0	18,000		5,000	10,000	18,000
South of Pioneer Trail	0	0	14,000				14,000
North of SR 44	0	0	14,000				14,000
South of SR 44	0	0	22,000			19,000	22,000
Average				6.54%			
Taylor Rd							
South of SR 421	9,000	13,000	17,000	0.96%	9,900	11,000	12,000
Average				0.96%			
York Towne Blvd							
North of SR 421	6,780	5,600	10,000	1.64%	7,800	8,900	10,000
South of SR 421	6,100	0	9,000	1.64%	7,000	8,000	9,000
Average				1.64%			

Roadway / Segment	AADT 2013	2010 Validated Model	2042 Model	Growth Rate	Projected AADT - Build		
					2022	2032	2042
Mainline Characteristics							
Clyde Morris Blvd							
North of SR 421	19,000	21,000	28,000	1.04%	21,000	23,000	25,000
South of SR 421	9,000	7,500	11,000	1.46%	10,000	12,000	13,000
Average				1.25%			
Tomoka Farms Rd							
North of SR 44	5,260	7,200	19,000	5.12%	7,700	10,000	13,000
South of SR 44	9,000	9,100	28,000	6.49%	14,000	20,000	26,000
Average				5.81%			
Sugar Mill Dr							
North of SR 44	2,760	3,500	10,000	5.80%	4,200	5,800	7,400
South of Pioneer Trail	2,760	3,000	4,100	1.64%	3,200	3,600	4,100
North of Pioneer Trail	3,300		4,900	1.64%	3,800	4,300	4,900
Average				3.03%			
Airport Rd							
North of SR 44	2,770	-	5,700	3.65%	3,700	4,700	5,700
North of Pioneer Trail	6,040	6,400	19,000	7.40%	10,000	15,000	19,000
South of Pioneer Trail	3,320	-	5,700	2.47%	4,100	4,900	5,700
Average				4.51%			
Summer Trees Rd							
North of SR 421	4,600	-	6,800	1.64%	5,300	6,000	6,800
South of SR 421	1,600	-	2,400	1.64%	1,800	2,100	2,400
Average				1.64%			
Shadow Pines Dr							
South of Turnbull Bay Rd	170	-	250	1.64%	190	220	250
Average				1.64%			
Williams Rd							
South of Turnbull Bay Rd	1,490	800	6,400	11.36%	3,000	4,700	6,400
Average				11.36%			

BEBR High Growth Rate

Model to Model Growth Rate

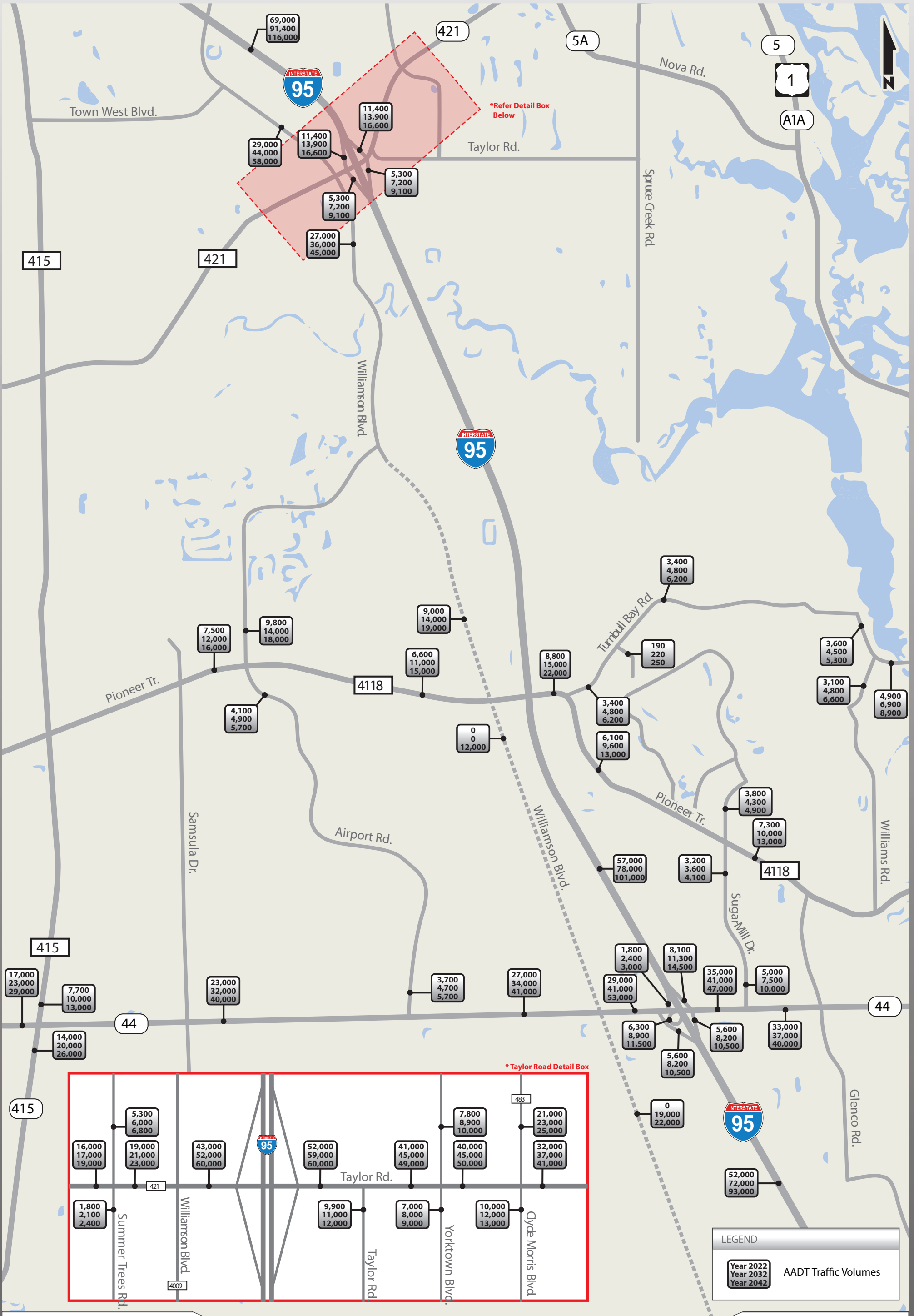
Model to Existing Growth Rate

Population Analysis - BEBR Estimates

	Year 2013	Year 2040	Annual Growth
Volusia - Low Projection	498,978	470,100	-0.21%
Volusia - Medium Projection	498,978	595,100	0.71%
Volusia - High Projection	498,978	720,000	1.64%

3.8 Traffic Volume Projections

Future year traffic volumes for No Build and Build Alternatives are presented below. The existing AADTs are shown in **Figure 2-1**. The projected future year AADTs for the No Build and Build Interchange Alternatives are depicted in **Figures 3-4 and 3-5**, respectively. Model plots are included in **Appendix F** of the report.

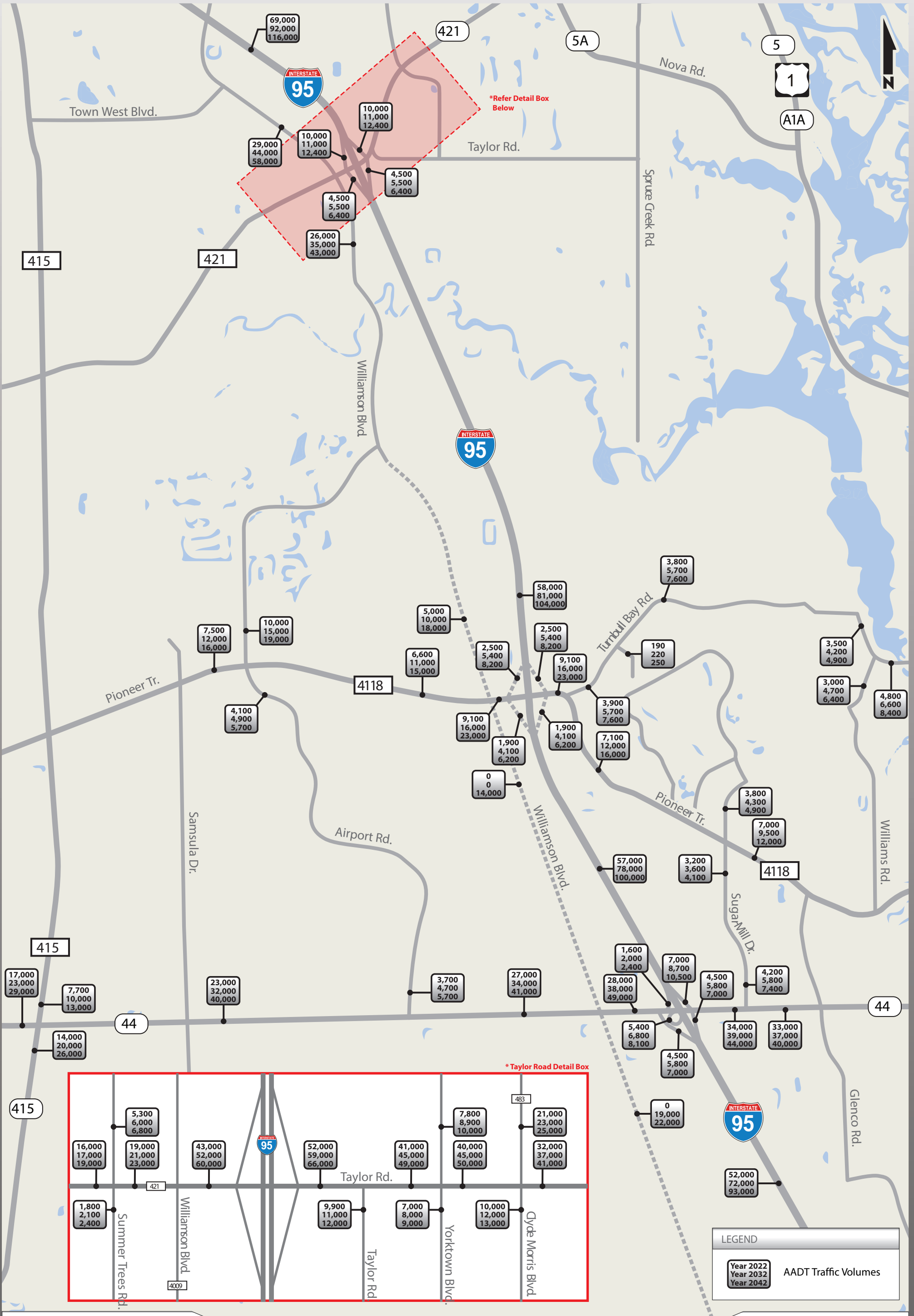


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 3-4
No Build Alternative - AADTs



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I-95 at Pioneer Trail Interchange
Volusia County

Figure 3-5
Build Alternative - AADTs

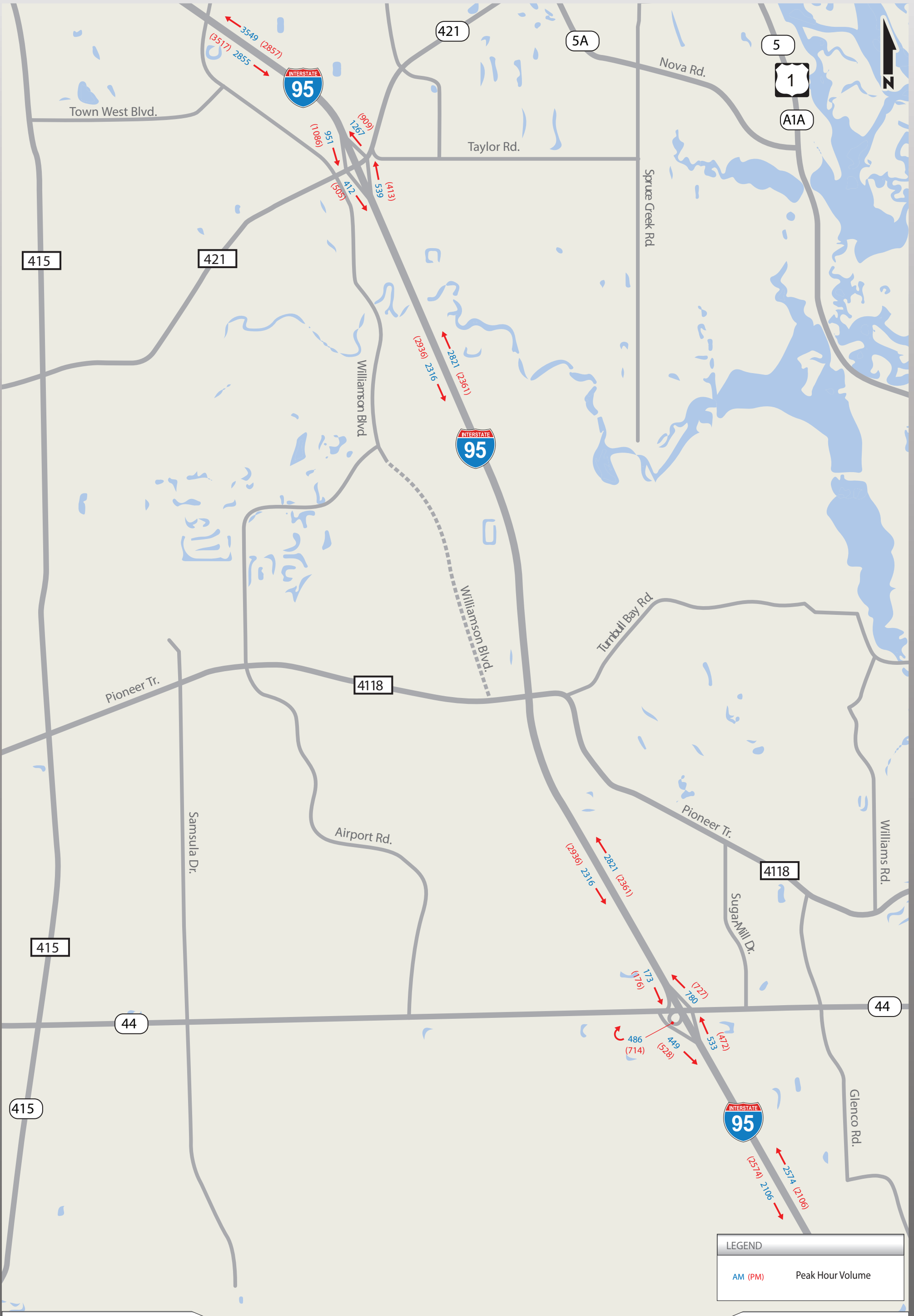
3.9 Intersection Design Hour Volumes

Directional Design Hour Volumes (DDHV) at the study intersections were developed from the future year AADTs using the recommended traffic characteristics (i.e., K, and D factors) for opening, interim and design-year conditions. This procedure is based on FDOT's Project Traffic Forecasting Handbook. The DDHVs were developed for the Build and No Build Alternatives.

The individual intersection peak hour turning movement volumes were developed using the TMTTools Excel-based program, which balances AADTs and calculates DDHVs based on K and D factors used as input. The estimated directional design hour volumes from TMTTools were checked for reasonableness. When necessary, manual adjustments were made to attain balanced traffic flow conditions along the study corridors. TMTTools output sheets, with the minor changes performed, are included in **Appendix G**.

In some instances, future volumes deviate from the approved design-hour factors (on the side streets) as a result of manual adjustments and balancing at the intersections. However, the factors were maintained within the range of the acceptable values from FDOT's Project Traffic Forecasting Handbook for all study segments.

The Opening year (2022), Interim year (2032), and Design year (2042) DDHVs and intersection turning movements are shown in **Figures 3-6 through 3-8** for the No Build Alternative. Similarly, these volumes for the Build Alternative are shown in **Figures 3-9 through 3-11**.

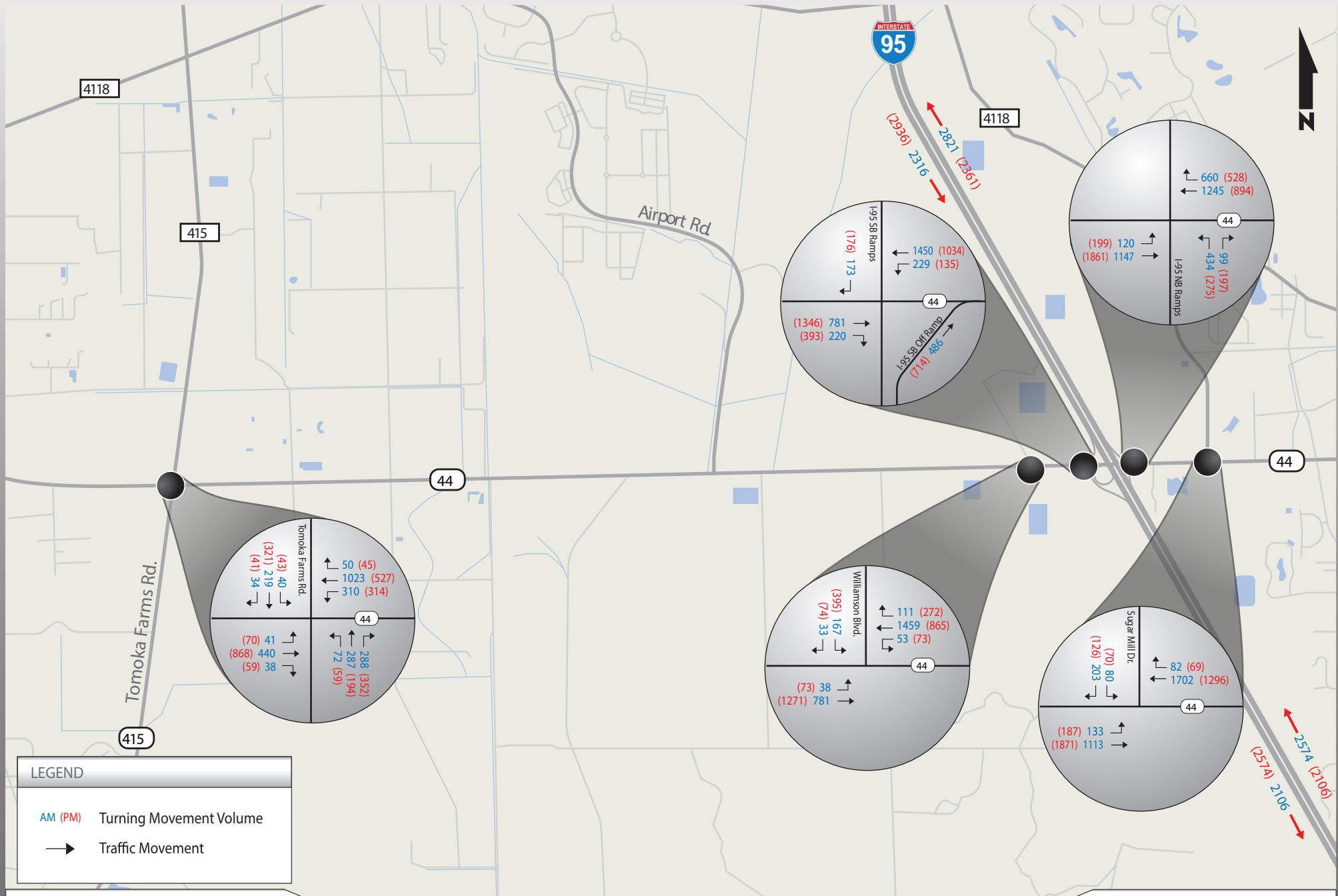


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 3-6
Year 2022 Mainline AM & PM Peak Hour Volumes
(No Build Alternative)

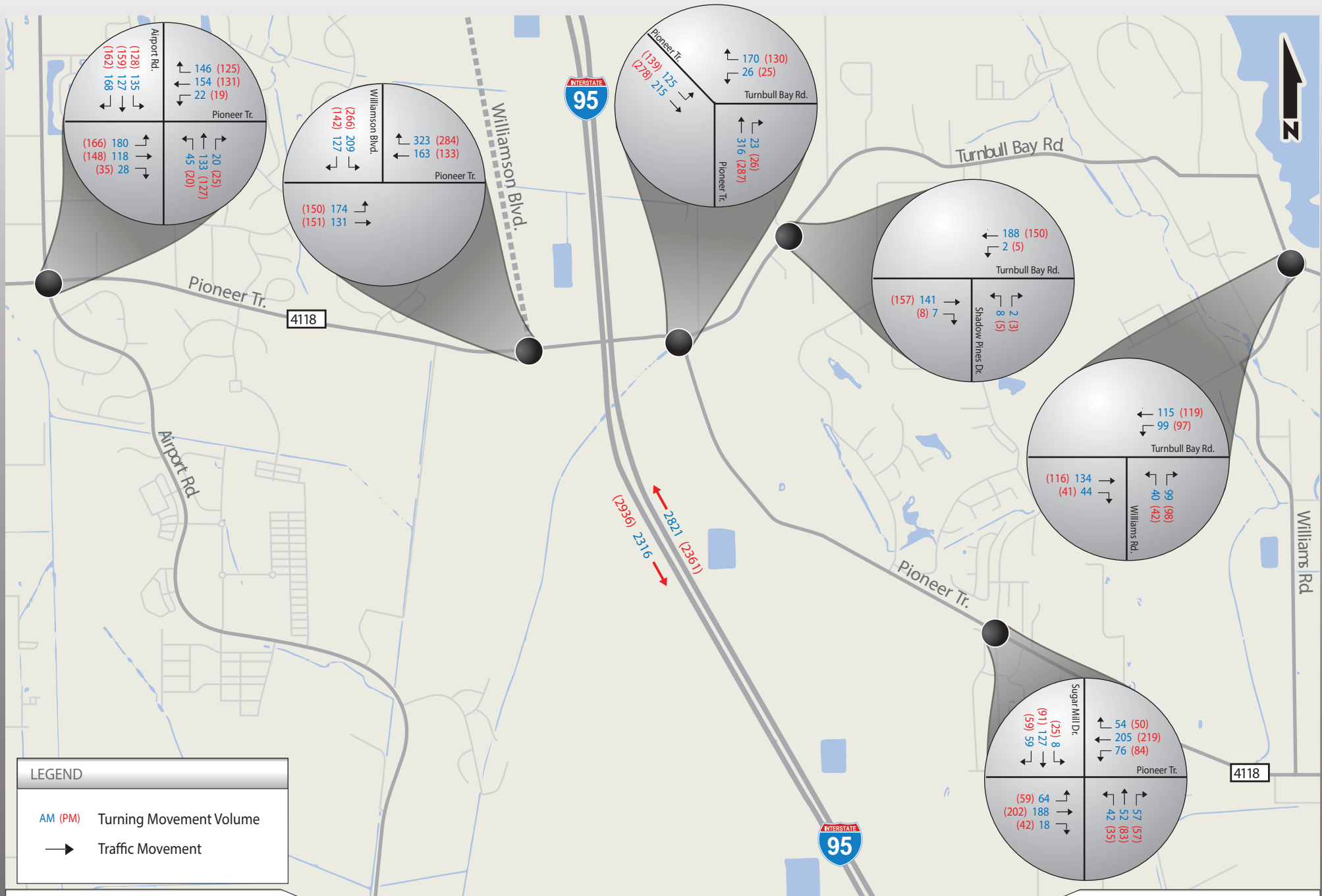


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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-6-1
SR 44 - Year 2022 AM & PM Peak Hour Volumes
(No Build Alternative)

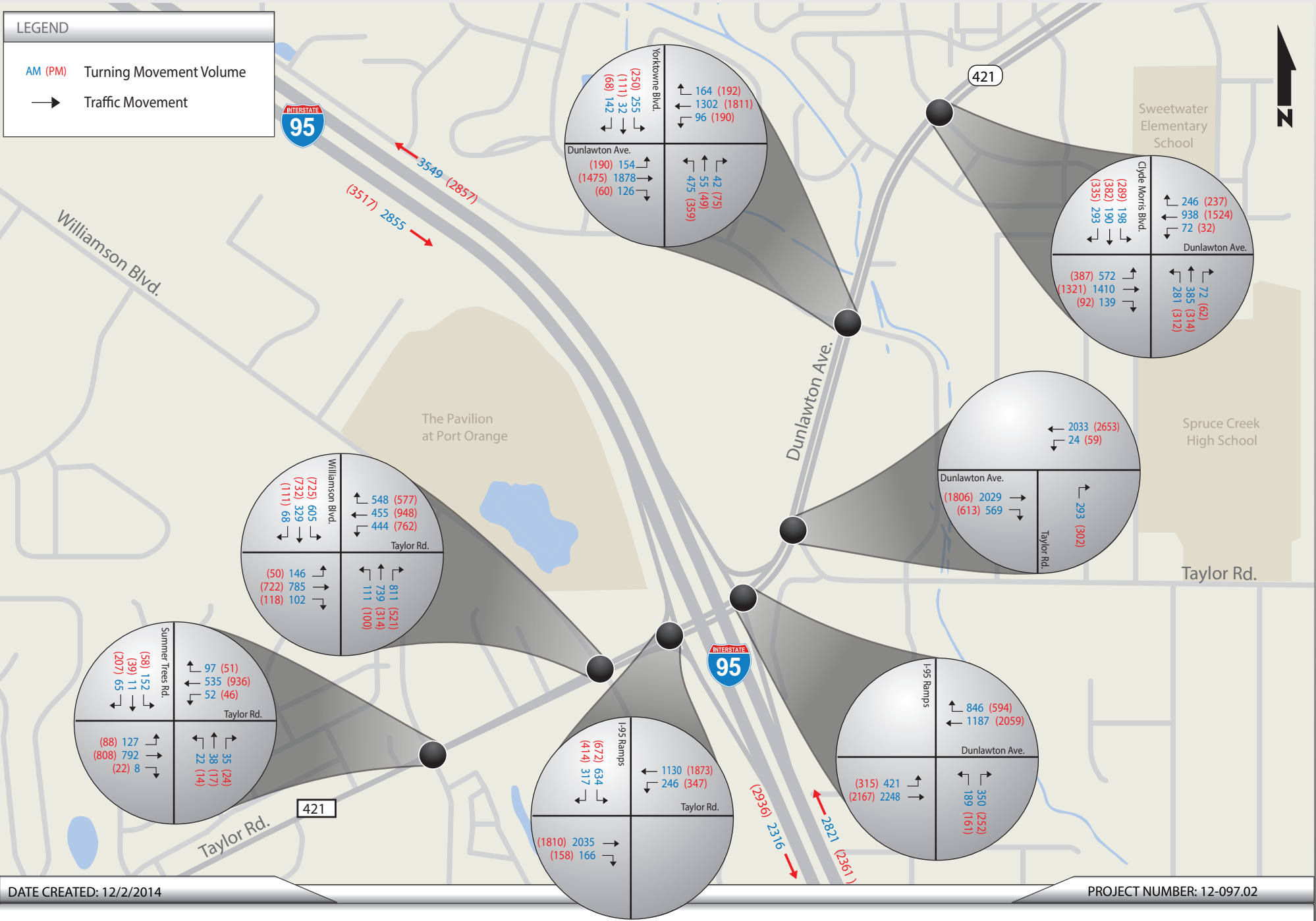


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

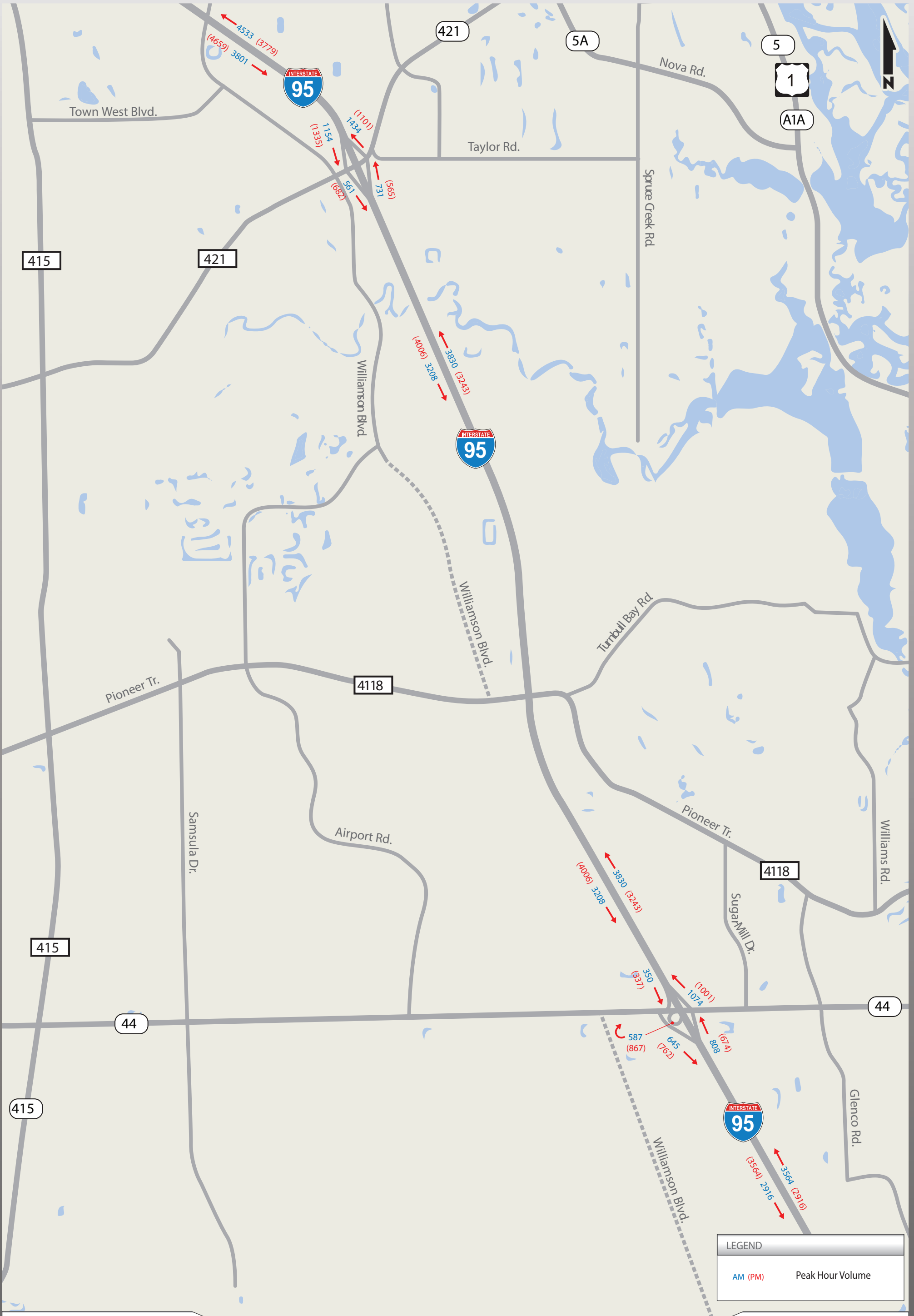
I-95 at Pioneer Trail Interchange Volusia County

Figure 3-6-2
Pioneer Trail - Year 2022 AM & PM Peak Hour Volumes
(No Build Alternative)



I-95 at Pioneer Trail Interchange
Volusia County

Figure 3-6-3
SR 421 - Year 2022 AM & PM Peak Hour Volumes
(No Build Alternative)

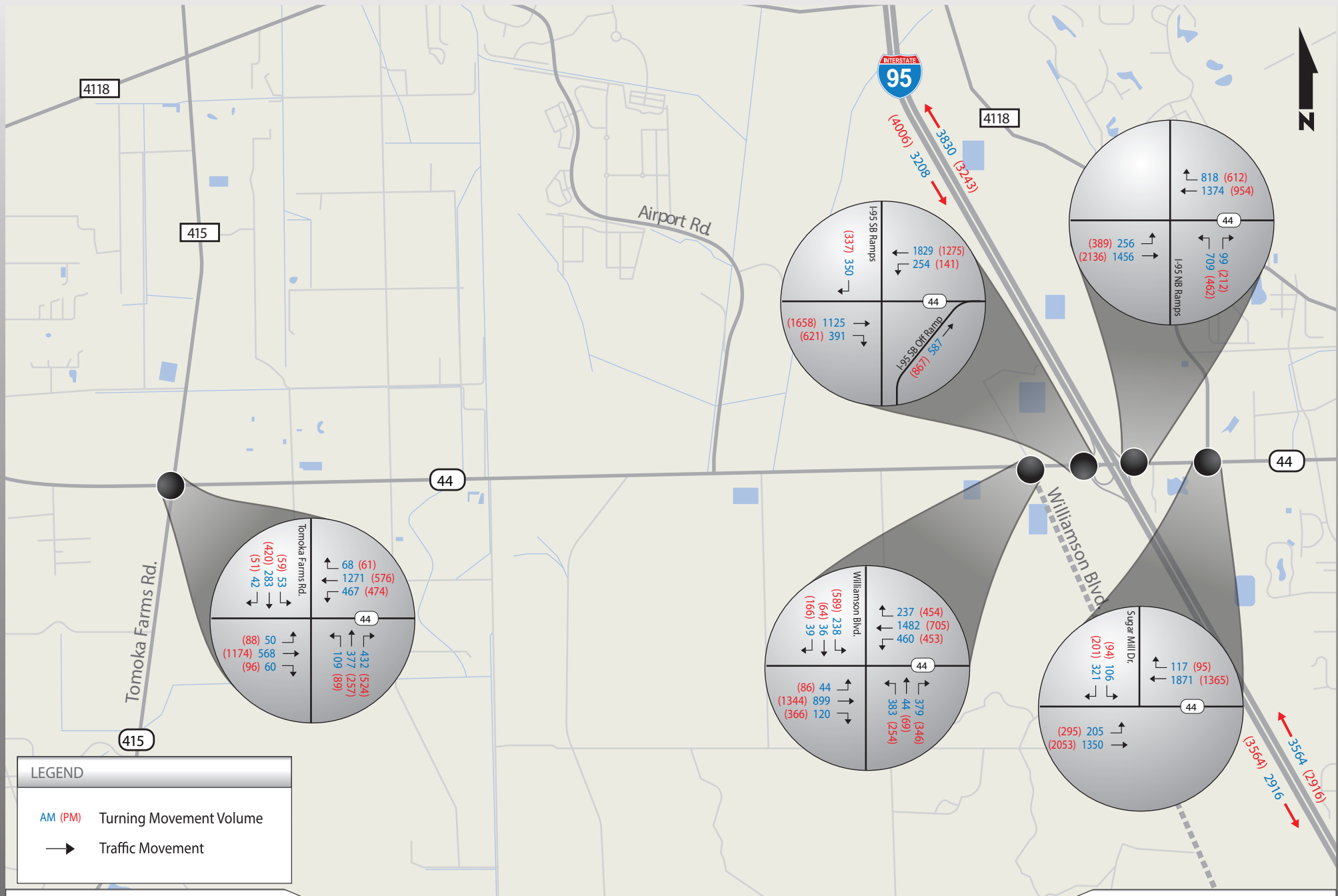


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 3-7
Year 2032 Mainline AM & PM Peak Hour Volumes
(No Build Alternative)

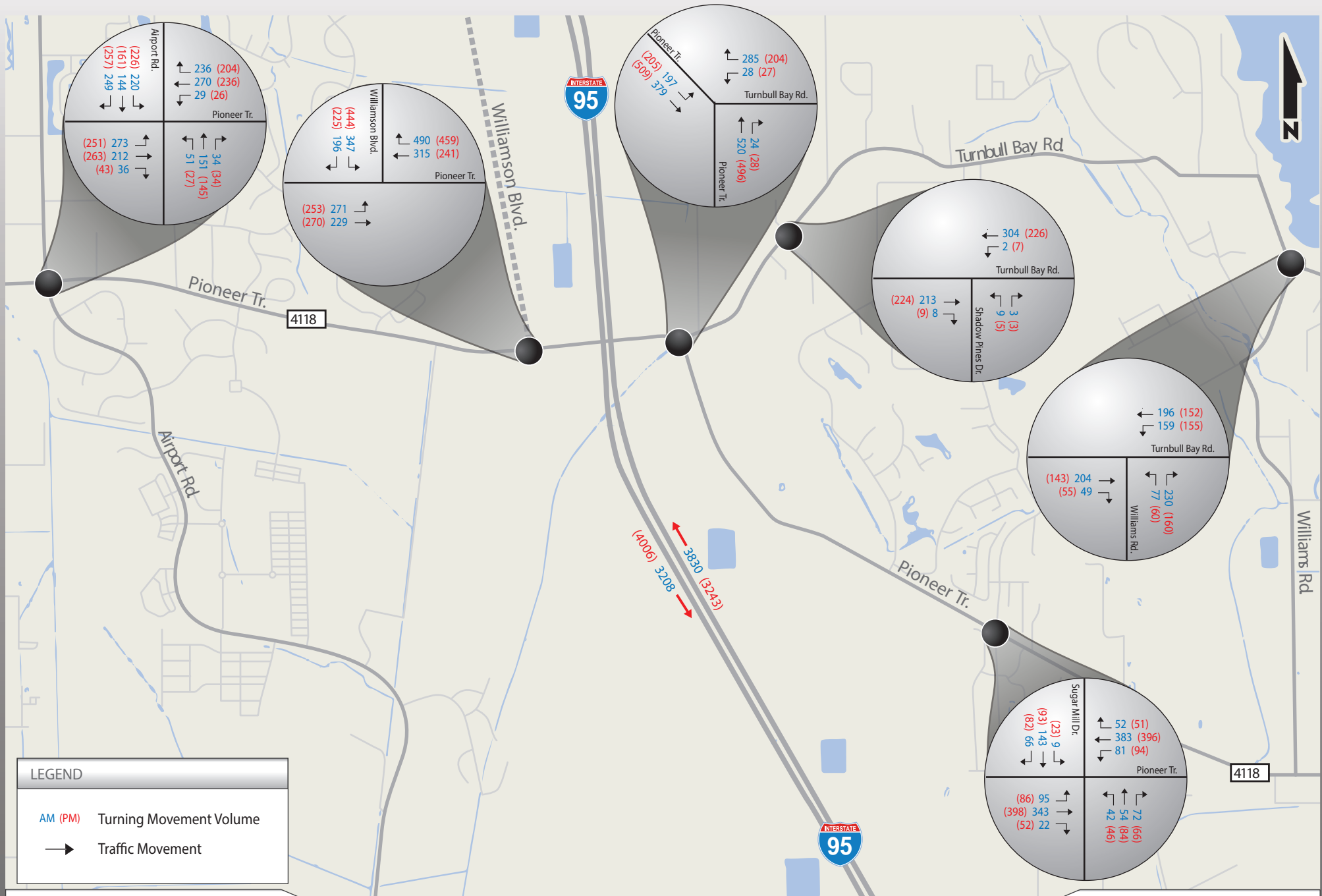


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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-7-1
SR 44 - Year 2032 AM & PM Peak Hour Volumes
(No Build Alternative)



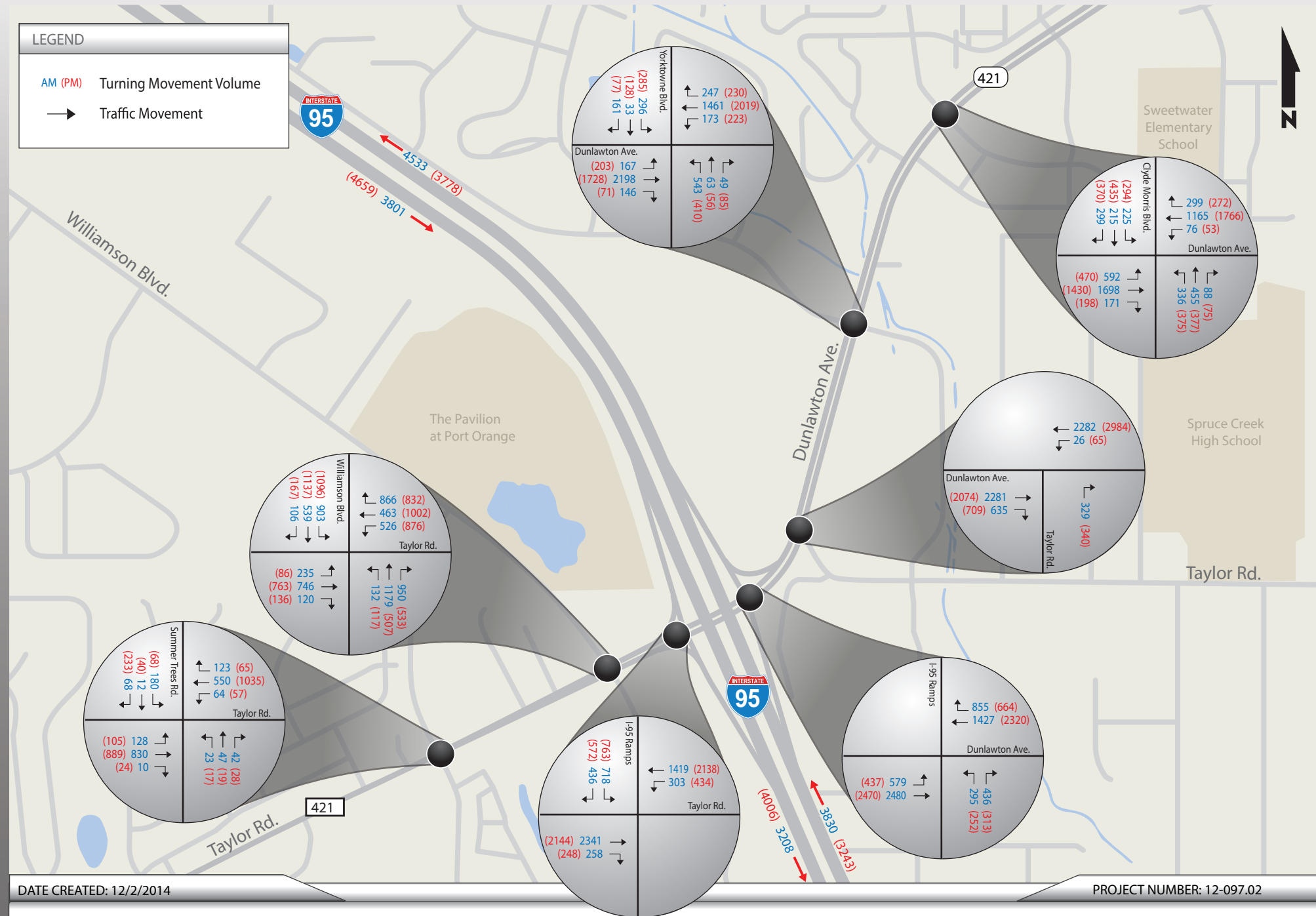
I-95 at Pioneer Trail Interchange Volusia County

Figure 3-7-2
Pioneer Trail - Year 2032 AM & PM Peak Hour Volumes
(No Build Alternative)

LEGEND

AM (PM) Turning Movement Volume

→ Traffic Movement



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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-7-3
SR 421 - Year 2032 AM & PM Peak Hour Volumes
(No Build Alternative)

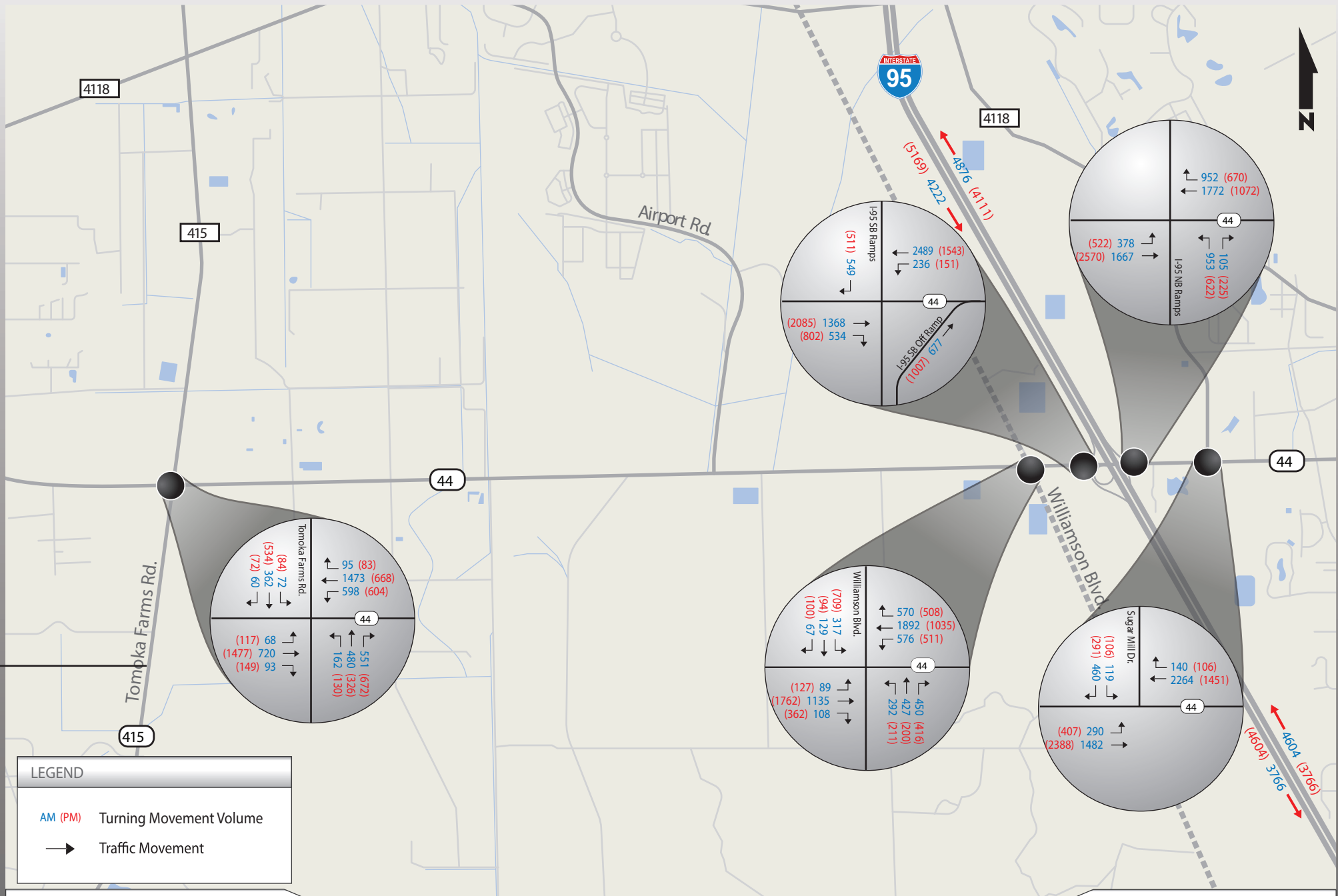


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 3-8
Year 2042 Mainline AM & PM Peak Hour Volumes
(No Build Alternative)

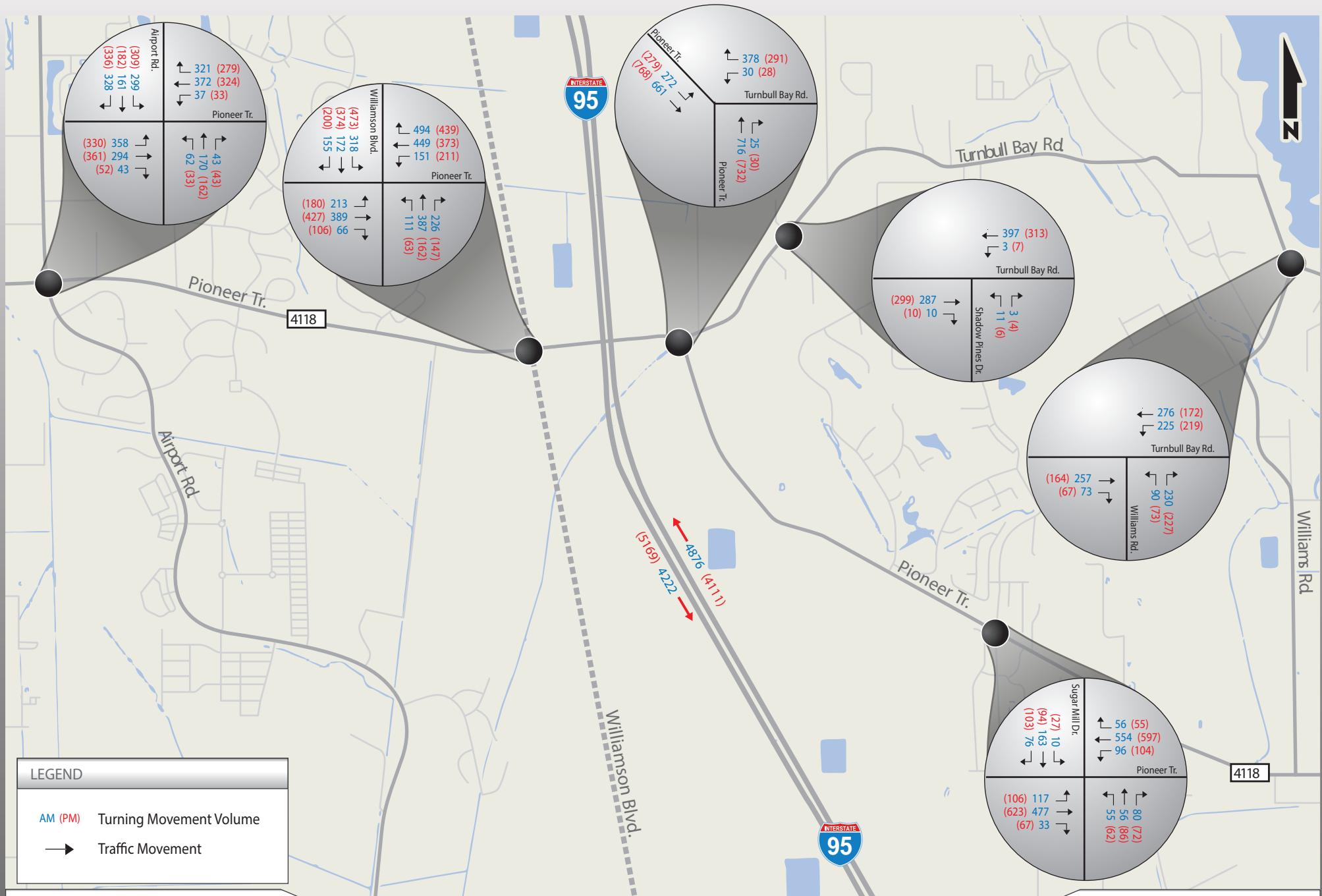


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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-8-1
SR 44 - Year 2042 AM & PM Peak Hour Volumes
(No Build Alternative)



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PROJECT NUMBER: 12-097.02

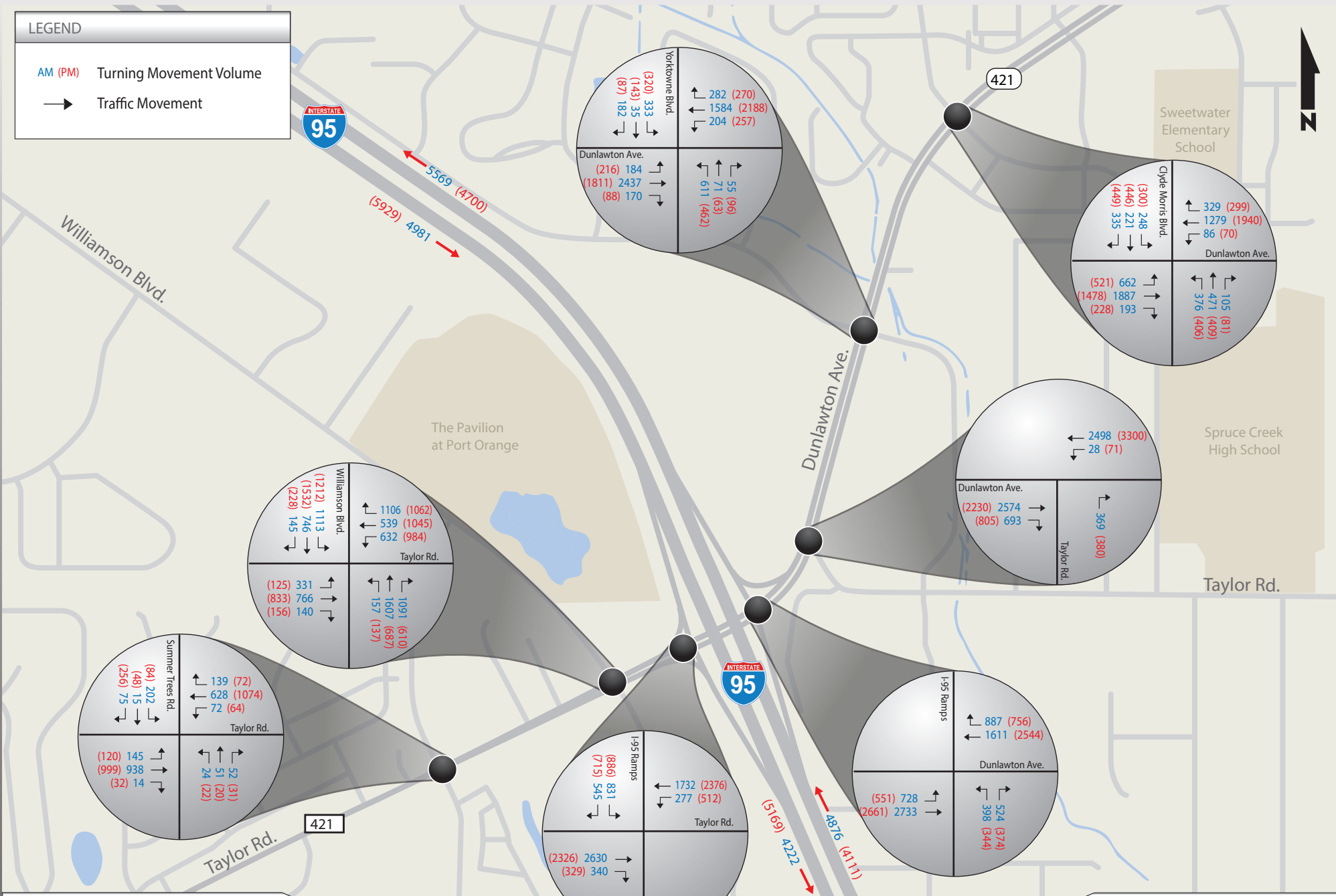
I-95 at Pioneer Trail Interchange Volusia County

Figure 3-8-2
Pioneer Trail - Year 2042 AM & PM Peak Hour Volumes
(No Build Alternative)

LEGEND

AM (PM) Turning Movement Volume

→ Traffic Movement



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PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 3-8-3
SR 421 - Year 2042 AM & PM Peak Hour Volumes
(No Build Alternative)

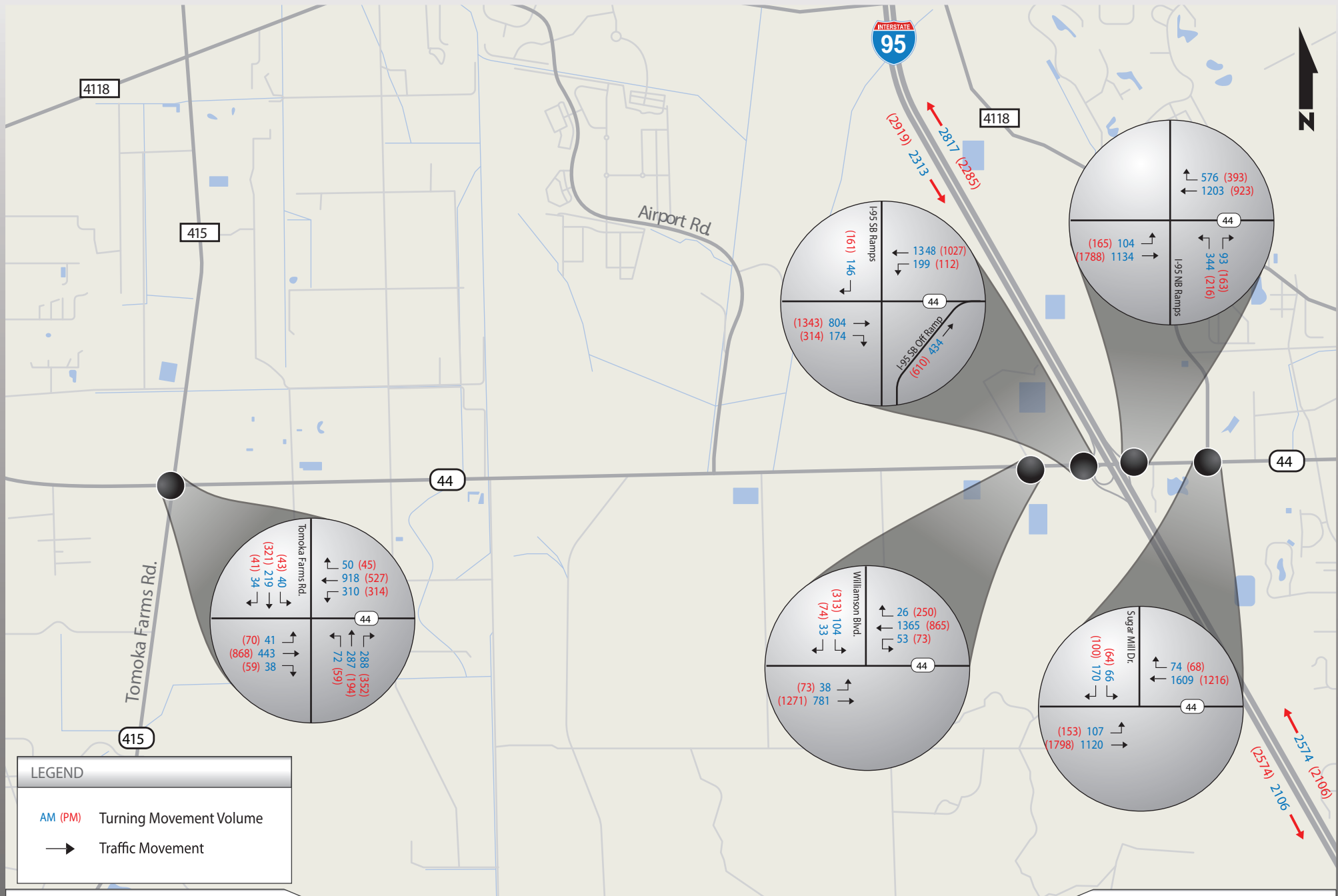


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 3-9
Year 2022 Mainline AM & PM Peak Hour Volumes
(Build Alternative)

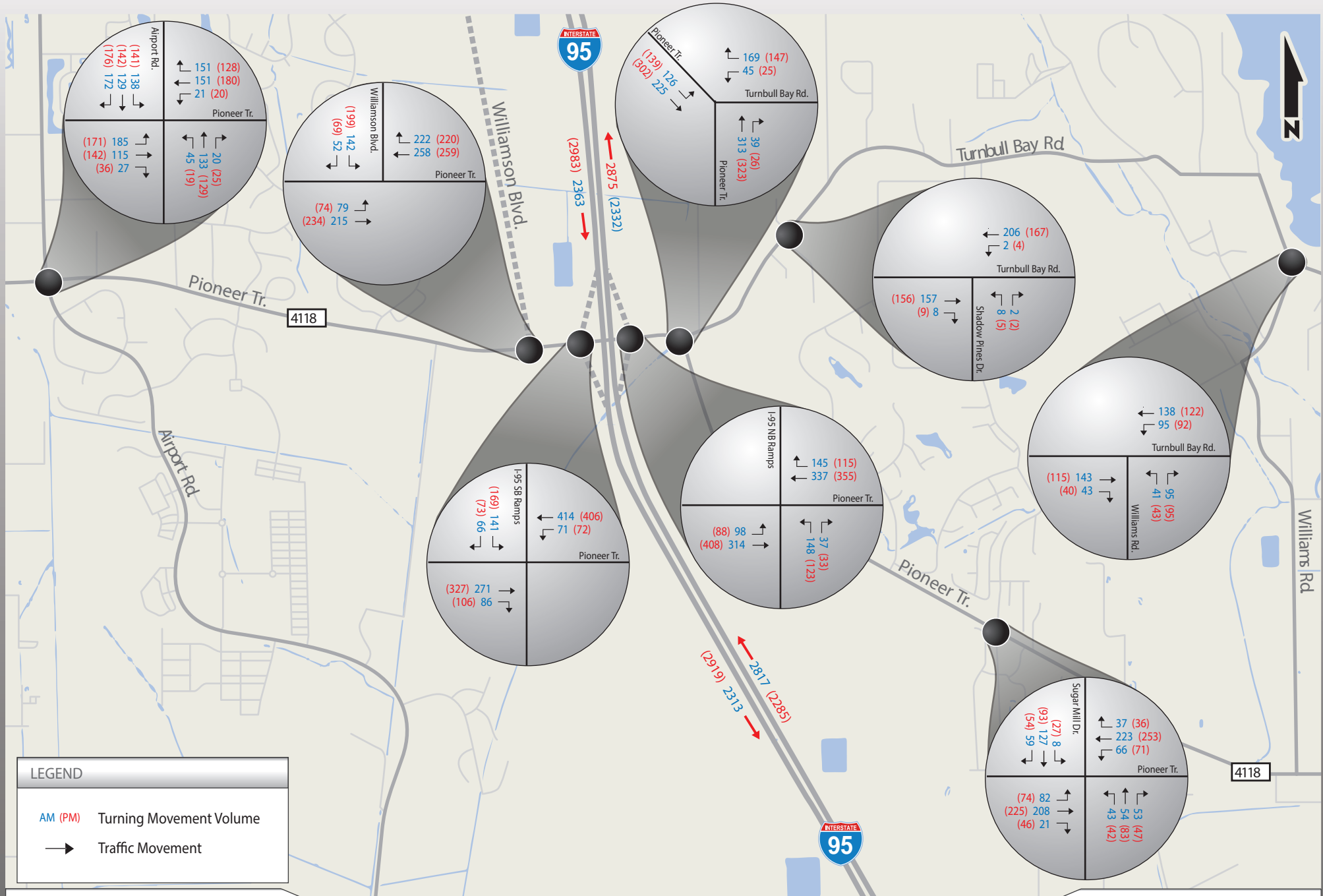


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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-9-1
SR 44 - Year 2022 AM & PM Peak Hour Volumes
(Build Alternative)



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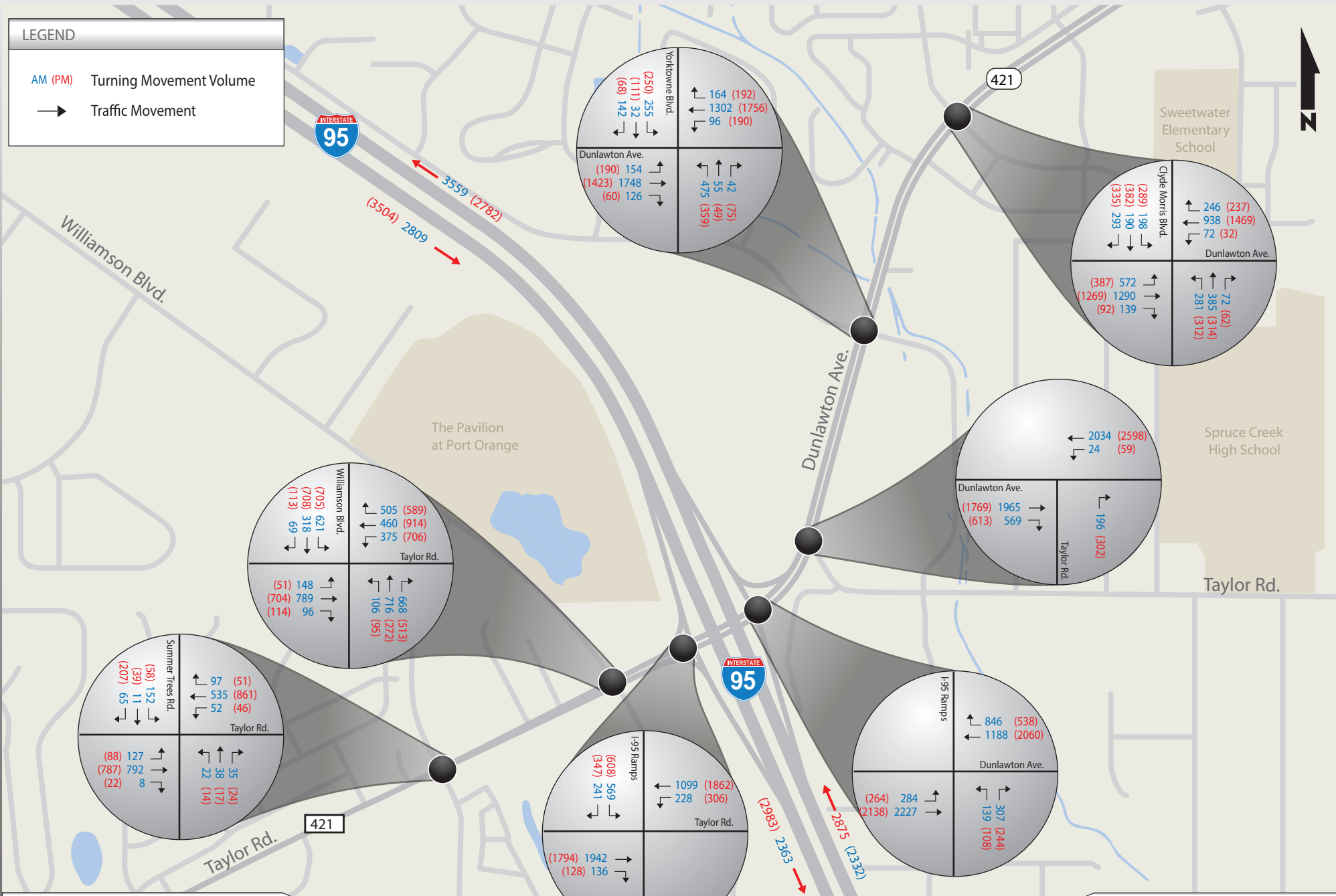
I-95 at Pioneer Trail Interchange Volusia County

Figure 3-9-2
Pioneer Trail - Year 2022 AM & PM Peak Hour Volumes
(Build Alternative)

LEGEND

AM (PM) Turning Movement Volume

→ Traffic Movement

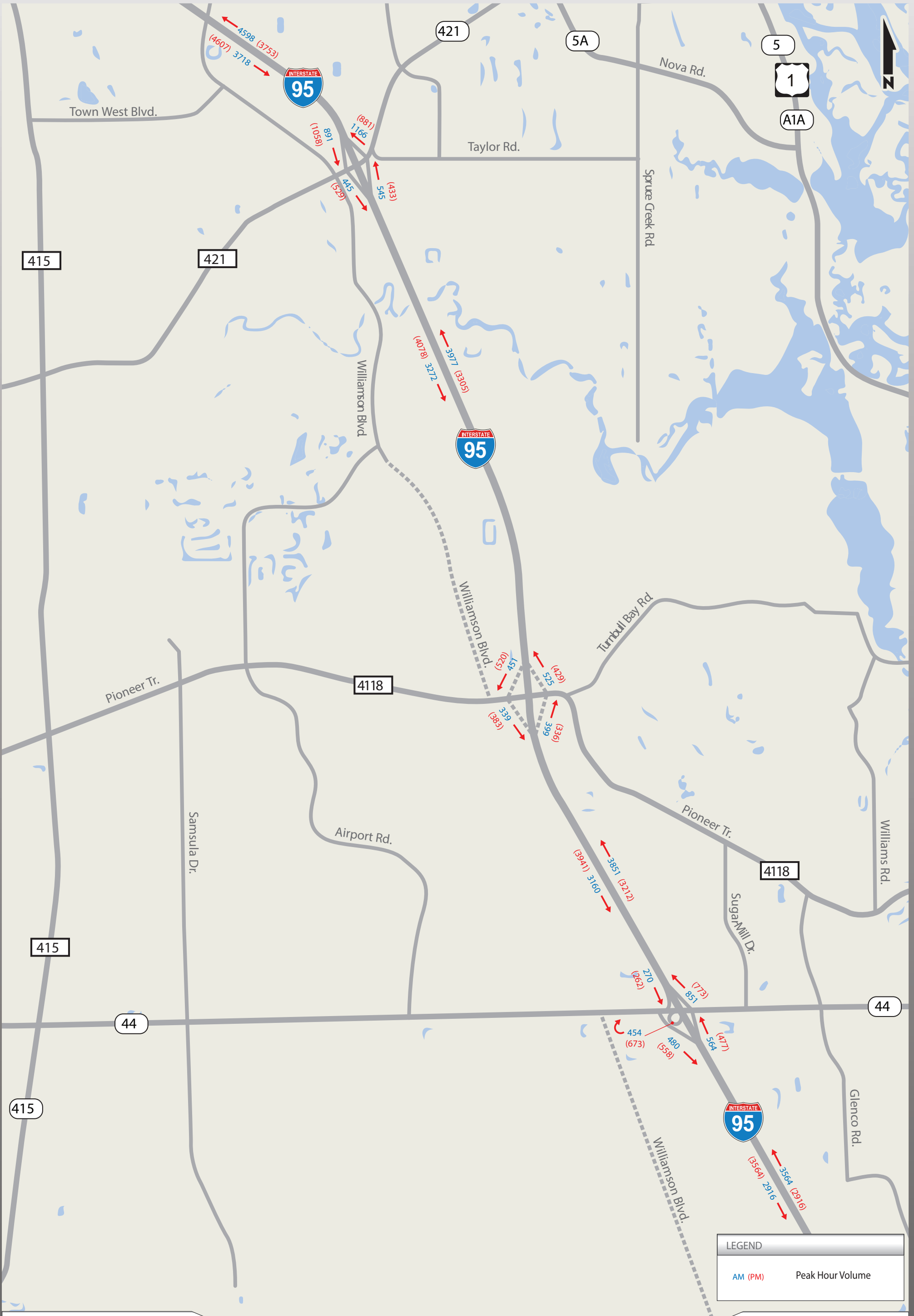


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PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 3-9-3
SR 421 - Year 2022 AM & PM Peak Hour Volumes
(Build Alternative)

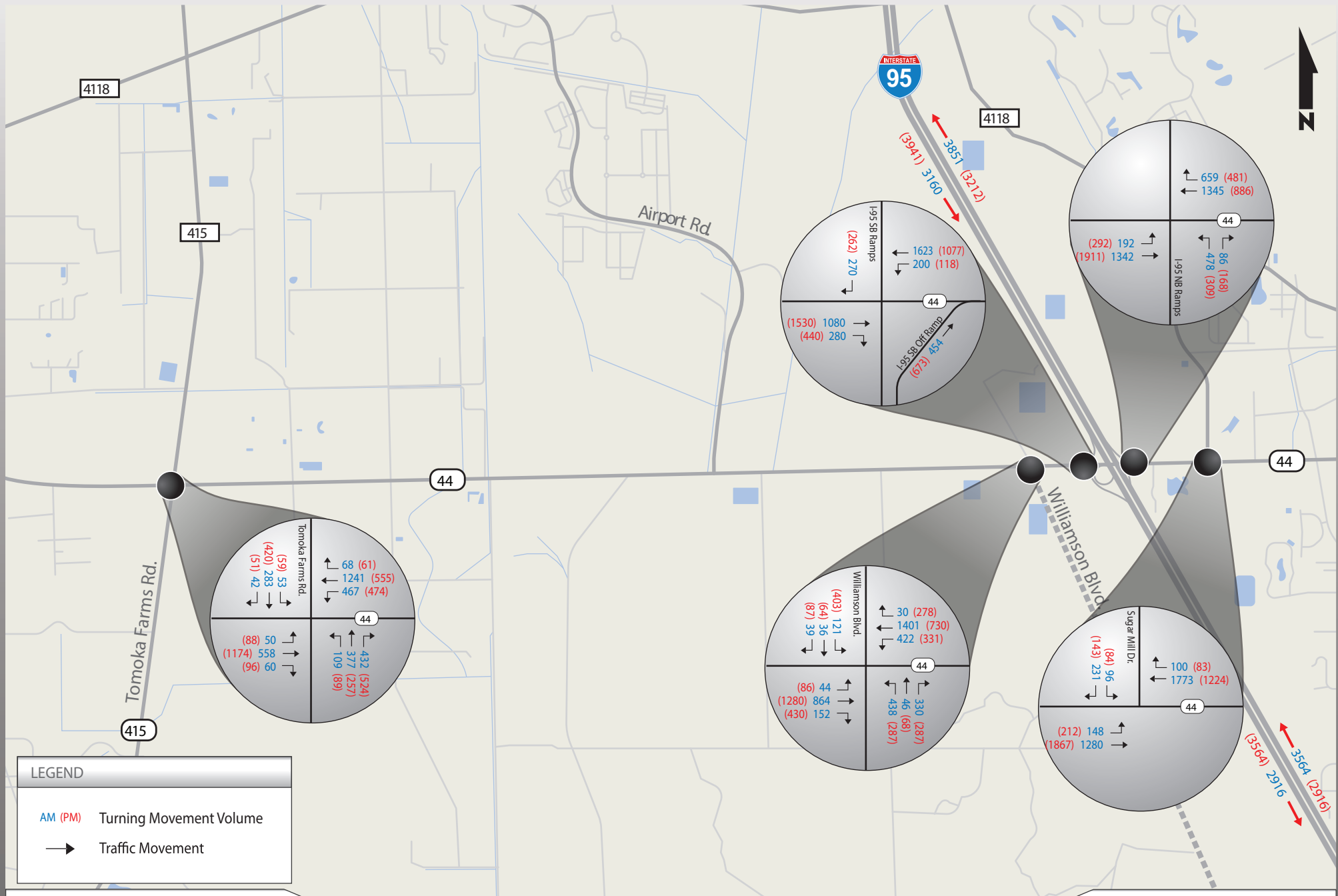


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 3-10
Year 2032 Mainline AM & PM Peak Hour Volumes
(Build Alternative)

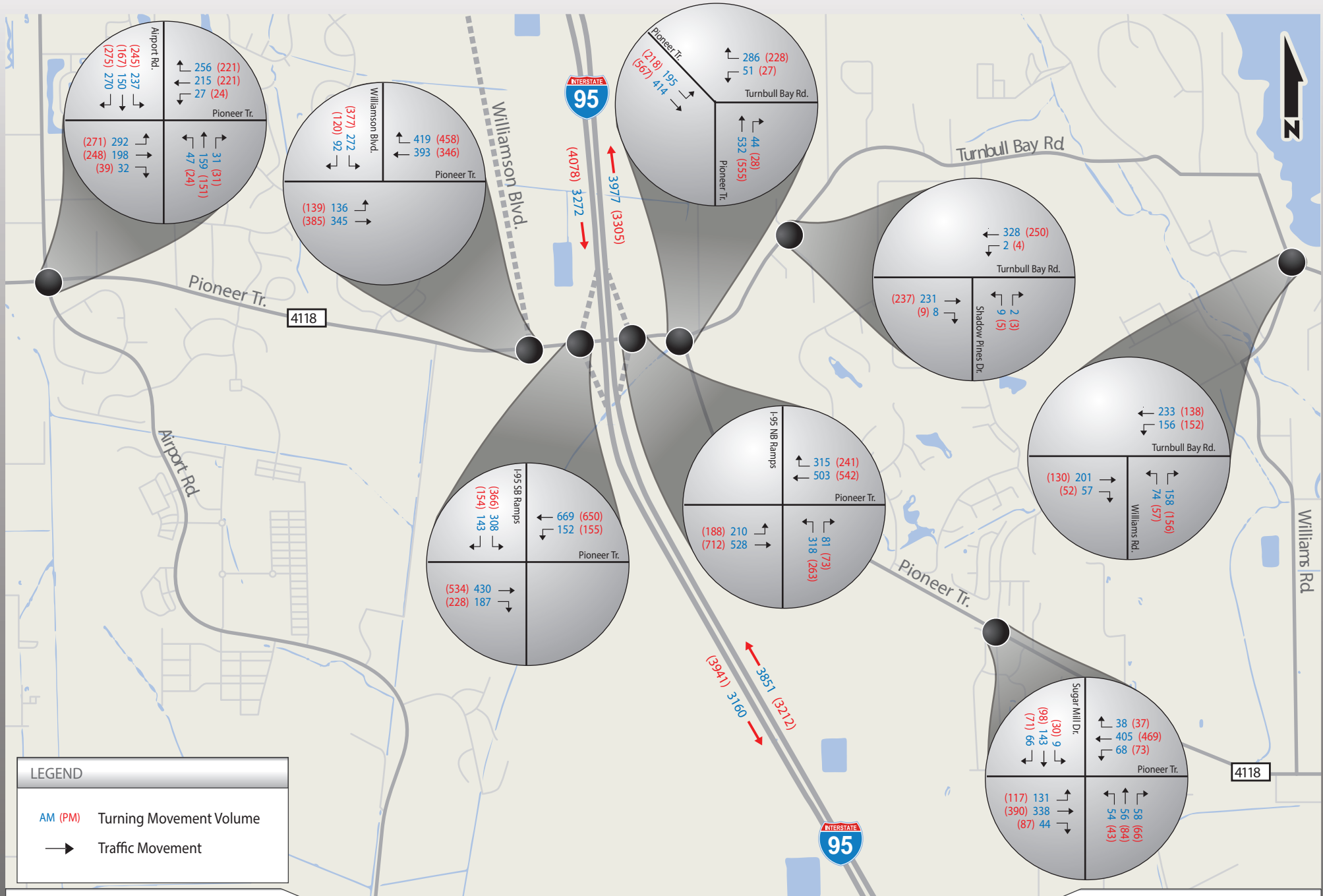


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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-10-1
SR 44 - Year 2032 AM & PM Peak Hour Volumes
(Build Alternative)



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PROJECT NUMBER: 12-097.02

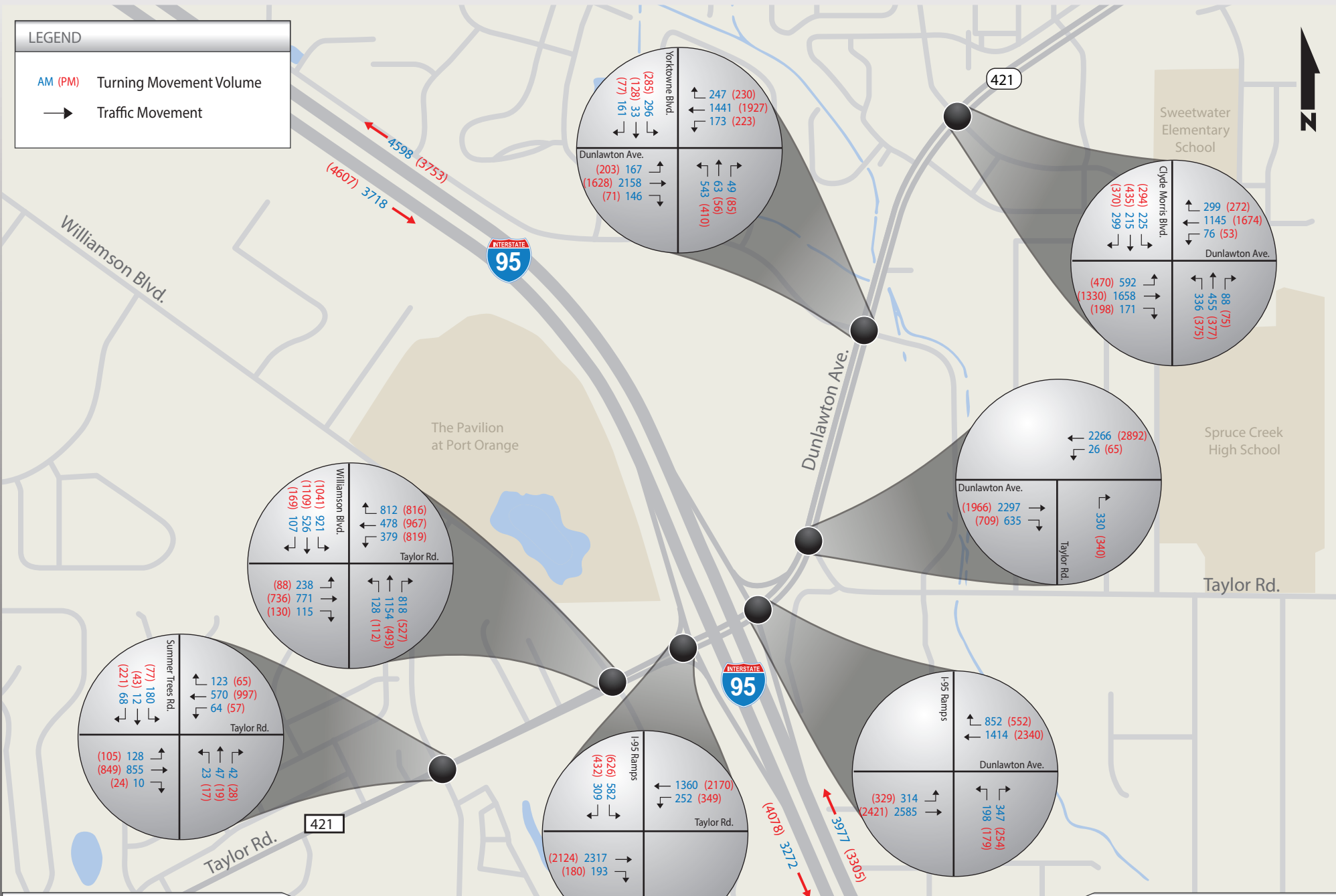
I-95 at Pioneer Trail Interchange Volusia County

Figure 3-10-2
Pioneer Trail - Year 2032 AM & PM Peak Hour Volumes
(Build Alternative)

LEGEND

AM (PM) Turning Movement Volume

→ Traffic Movement



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I-95 at Pioneer Trail Interchange Volusia County

Figure 3-10-3
SR 421 - Year 2032 AM & PM Peak Hour Volumes
(Build Alternative)

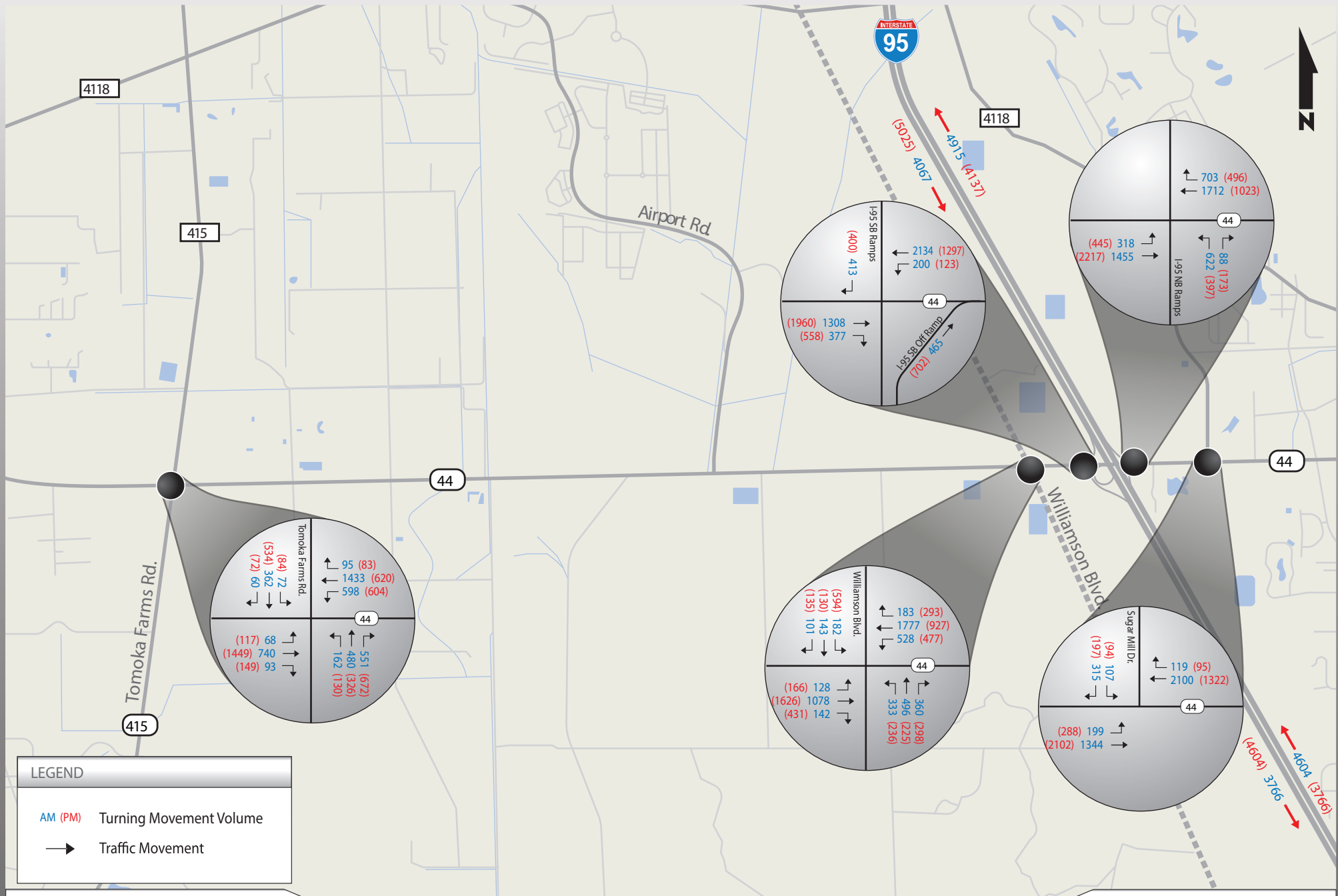


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PROJECT NUMBER: 12-097.02

**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 3-11
Year 2042 Mainline AM & PM Peak Hour Volumes
(Build Alternative)

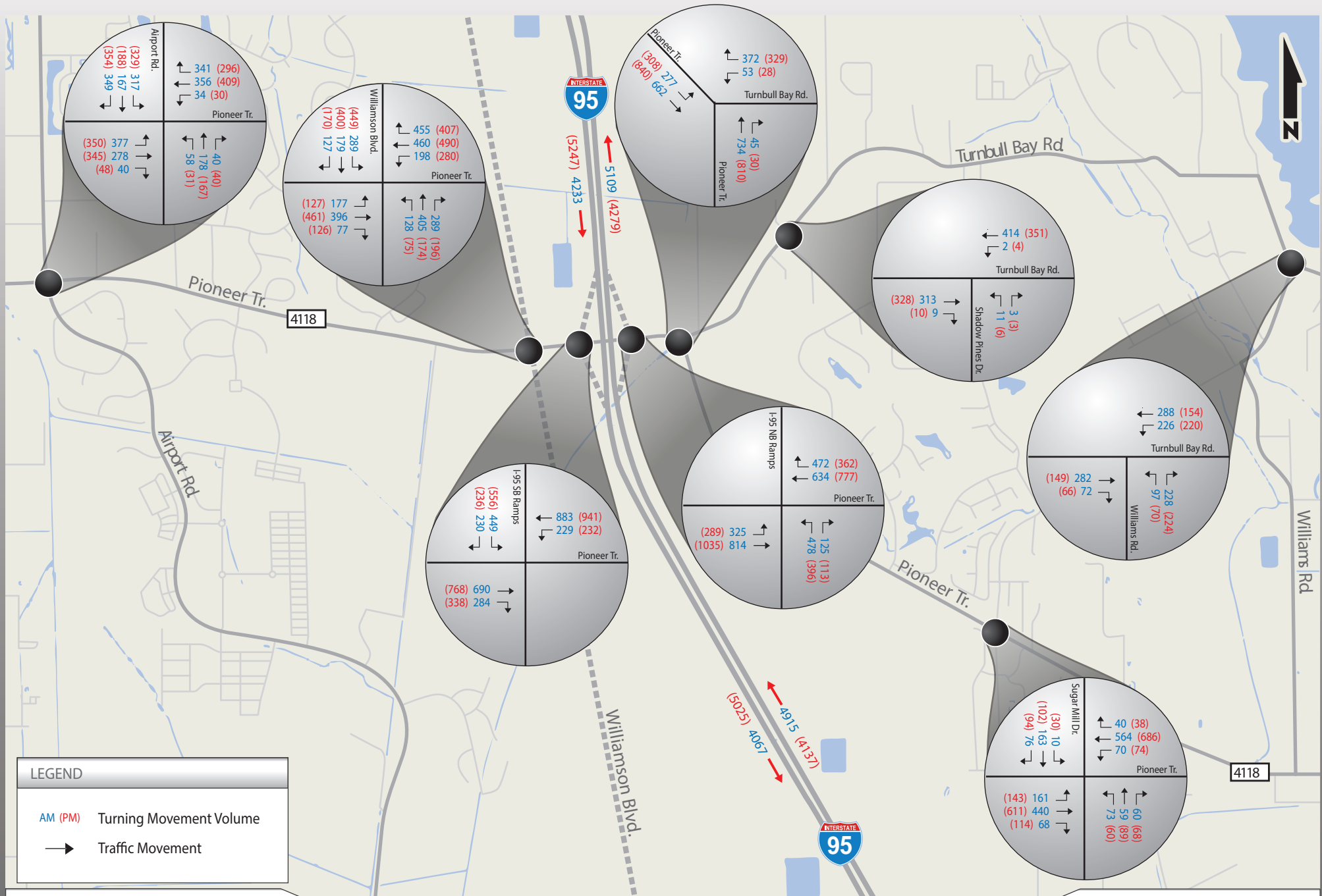


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 3-11-1
SR 44 - Year 2042 AM & PM Peak Hour Volumes
(Build Alternative)



DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

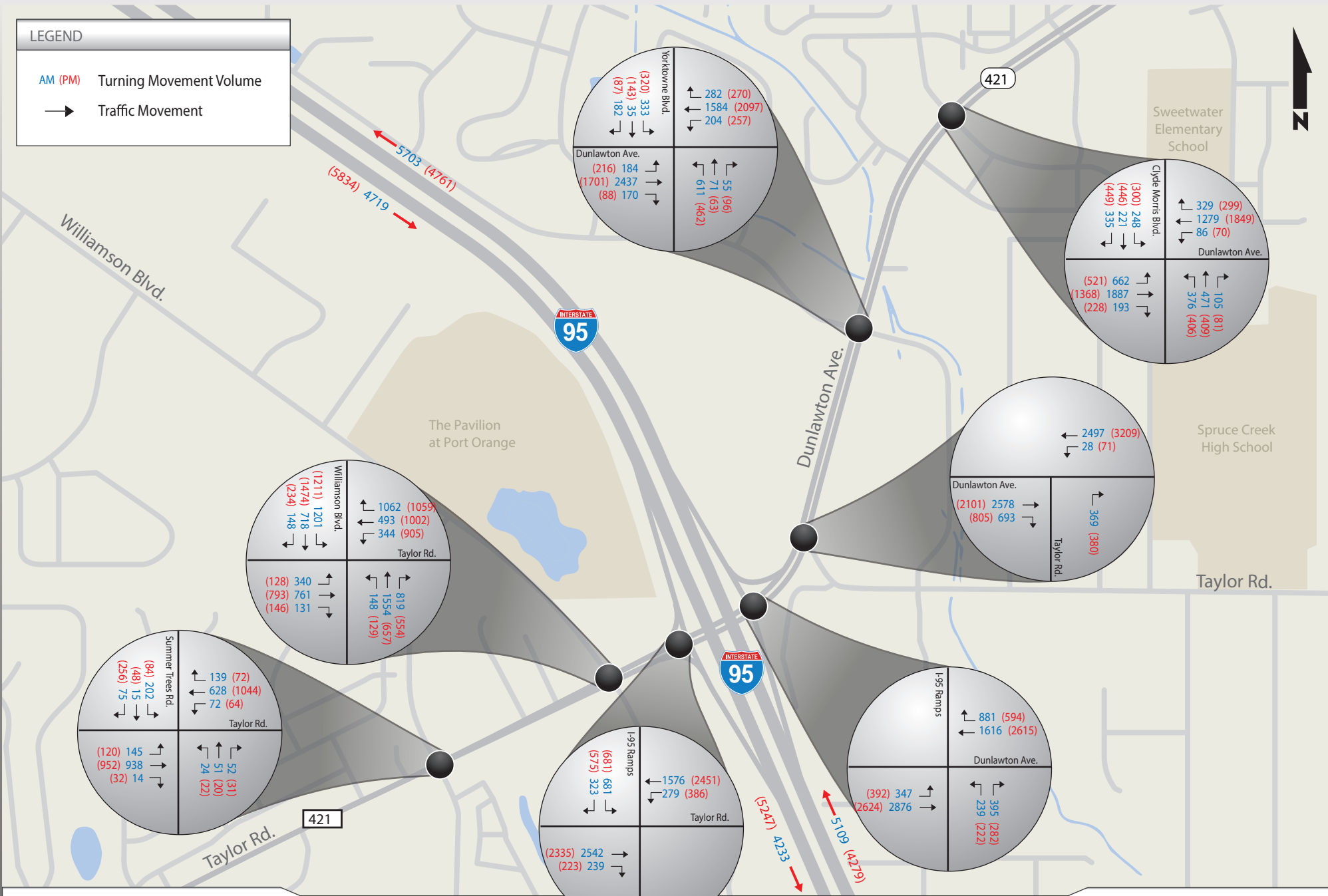
I-95 at Pioneer Trail Interchange Volusia County

Figure 3-11-2
Pioneer Trail - Year 2042 AM & PM Peak Hour Volumes
(Build Alternative)

LEGEND

AM (PM) Turning Movement Volume

→ Traffic Movement



DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

**I-95 at Pioneer Trail Interchange
Volusia County**

**Figure 3-11-3
SR 421 - Year 2042 AM & PM Peak Hour Volumes
(Build Alternative)**

4.0 Alternatives Description

4.1 Background Information

This chapter describes the No Build Alternative and two Build Alternatives. For the Build Alternatives, two geometric interchange configurations were evaluated for the proposed interchange on I-95 at Pioneer Trail. These alternatives and interchange configurations are described in this section. Transportation System Management (TSM) options and improvements are addressed in Section 5.1.

4.1.1 Roadway Network Assumptions

The following roadway changes were assumed in both the future No Build and Build scenarios:

- The widening of I-95 to a 6-lane interstate facility from SR 406 to SR 44 and from SR 44 north to US 92;
- The widening of Pioneer Trail from two lanes to four lanes between Williamson Boulevard and Turnbull Bay Road;
- The extension of Williamson Boulevard as a four-lane divided arterial from Airport Road to Pioneer Trail, the extension of Williamson Boulevard as a two-lane road from Pioneer Trail to SR 44, and the extension of Williamson Boulevard as a two-lane road from SR 44 to SR 442; and
- The widening of Airport Road from two lanes to four lanes between Sabal Creek Boulevard and Pioneer Trail.

The following intersection changes were assumed in both the future No Build and Build scenarios:

- An additional left turn lane to facilitate westbound SR 421 to southbound I-95 is under construction as part of the I-95 design/build project;
- SR 44 and I-95 northbound ramps intersection: additional westbound left-turn was added during the design year to achieve acceptable level of service;
- Based on the SR 44 Corridor Management Study, the exit lane from southbound to eastbound loop ramp is extended downstream approximately 1,500 ft. to provide free flow operation. The southbound to westbound ramp intersection is signalized. These improvements were implemented for the design year;

- SR 44 and Williamson Boulevard intersection: additional left-turn lanes were added on the westbound, southbound, and northbound approaches to achieve acceptable level of service;
- The intersections along Pioneer Trail at Airport Road, Tomoka Farms Road, and Sugar Mill Drive which are currently operating under flashing operation were considered to operate under signal control by opening year 2022.;
- Pioneer Trail and Airport Road intersection: additional left-turn lanes were included on the eastbound and southbound approaches in design year 2042 to achieve acceptable level of service. Since Pioneer Trail is a two-lane collector road additional treatments to receive dual left-turn lanes were also provided; and
- Pioneer Trail and Williamson Boulevard: additional southbound left-turn lane is warranted by design year 2042 to achieve acceptable level of service.

4.1.2 SR 421 Interchange Area Alternatives

Several potential roadway and intersection improvement concepts along the SR 421 corridor were evaluated in an attempt to address future operational deficiencies in the I-95/SR 421 interchange area without building the I-95/Pioneer Trail interchange. The presence of Williamson Boulevard approximately 650 feet to the west and Taylor Road less than 700 feet to the east combined with the projected future traffic volumes limits the number of alternatives that can reasonably be implemented. Of note is the short distance between the southbound I-95 exist ramp intersection and the westbound approach of SR 421 to the Williamson Boulevard intersection. The 2042 analysis worksheets for Alternatives 1 through 6 are provided in **Appendix H**.

Table 4-1 shows the improvement alternatives that were identified in the SR 421 interchange area and **Figure 4-1** shows the lane arrangements of each alternative. It is noted that Alternatives 1 through 4 were previously identified and evaluated as part of the SR 421/I-95 Interchange Analysis, dated January 2009, completed by Kimley-Horn & Associates, Inc. for the City of Port Orange. The 2009 report concluded that while interim improvements could provide some improvement out to 2025 “consideration should be given to providing alternative routes such that vehicles do not need to travel through the SR 421/I-95 interchange area.” The following observations were made based on the table:

- Alternatives 1, 2, and 3 provide little (alternatives 1 and 2) to no (alternative 3) operational improvements at the interchange ramps and key SR 421/Williamson Boulevard intersection. The alternatives do not provide an alternative connection to reduce the number of vehicles of traveling through the interchange area.
- Alternative 5 (diverging diamond interchange) does not provide any operational improvements at the interchange ramps and key SR 421/Williamson Boulevard intersection. The close spacing of the SR 421 intersections through the interchange area limits the potential benefits of the configuration. The alternatives do not provide an alternative connection to reduce the number of vehicles of traveling through the interchange area.

Alternatives 4 and 6 and the construction of the Pioneer Trail interchange provide the most benefit based on the delay and LOS values at the I-95/SR 421 interchange ramp intersections. The benefits shown in Alternatives 4 and 6 are gained by creating additional capacity at the I-95/SR 421 interchange ramp intersections through significant geometric changes. The benefits shown for the I-95/Pioneer Trail interchange are gained by reducing the vehicle demand at the I-95/SR 421 interchange ramp intersections through the provision of the alternative connection being provided at Pioneer Trail. It was determined that the need exists to provide an alternative connection in the area to reduce the number of vehicles traveling through the interchange area.

Table 4-1: Improvement Alternatives at I-95 at SR 421 Interchange (2042 Design Year)

Alternative	Improvement	Location	Cost	Notes	YR 2042 LOS Assessment								Operational Remarks	
					Time Period	SR 421 at Summer Trees Road		SR 421 at Williamson Boulevard		SR 421 at I-95 SB Ramps		SR 421 at I-95 NB Ramps		
						Delay	LOS	Delay	LOS	Delay	LOS	Delay		LOS
No Build	NA	NA	----		AM Peak	41.2	D	222.2	F	69.7	E	57.6	E	1) The vehicles along the westbound approach of SR 421 & Williamson Boulevard intersection will spill into the I-95 southbound exit ramps. 2) Queues on the southbound and northbound exit ramps are anticipated to spill beyond the available storage. 3) Excessive delays are expected for the westbound left turn and eastbound left turn movements leading into the I-95 entrance ramps.
					PM Peak	53.9	D	194.4	F	85.5	F	49.4	D	
Alternative 1	Add 3rd Southbound Left-Turn Lane	SR 421 & I-95 SB Ramps Intersection	Low	Provides slight operational improvement at SR 421 / I95 SB ramps intersection.	AM Peak	41.2	D	222.3	F	62.6	E	57.9	E	
					PM Peak	53.9	D	194.4	F	77.7	E	49.9	D	
Alternative 2	Restrict EBL and SBR movements	SR 421 & Williamson Boulevard intersection	Low	Reroute these movements to Summer Trees Road. Slight operational improvement at Williamson Boulevard intersection.	AM Peak	53.4	D	203.5	F	69.9	E	57.6	E	
					PM Peak	133.7	F	172.1	F	89.6	F	49.4	D	
Alternative 3	Remove free-flow condition for SB right-turn and signalize all right turn vehicles	SR 421 & I-95 SB Ramps Intersection	Low	No measurable improvement	AM Peak	41.2	D	222.2	F	69.7	E	57.6	E	
					PM Peak	53.9	D	194.4	F	85.5	F	49.4	D	
Alternative 4	Interchange Reconfiguration (includes modifications at SR 421/Williamson)	Interchange	High	This is a heavily reconfigured interchange alternative that was first evaluated in 2009. Requires replacement of the single-span I-95 bridges that are currently under construction as part of the I-95 widening.	AM Peak	53.4	D	183.5	F	33.9	D	45.0	D	
					PM Peak	133.7	F	166.6	F	34.4	C	34.4	C	
Alternative 5	Diverging Diamond Interchange (DDI)	Interchange	Medium	Limits the spacing between Williamson Boulevard & SB ramps intersection. No Operational improvement at the interchange	AM Peak	41.2	D	225.6	F	92.1	F	88.7	F	
					PM Peak	53.9	D	206.6	F	128.1	F	188.5	F	
Alternative 6	Single Point Urban Interchange (SPUI)	Interchange	High	Needs additional Right of Way. Requires replacement of the single-span I-95 bridges that are currently under construction as part of the I-95 widening. Does not alleviate deficiencies at SR 421 & Williamson Boulevard.	AM Peak	44.6	D	218.9	F	47.2 / D				
					PM Peak	53.9	D	195.8	F	52.1 / D				
Construct I-95/Pioneer Trail Interchange					AM Peak			198.3	F	58.2	E	20.5	C	
					PM Peak			174.8	F	72.6	E	23.8	C	

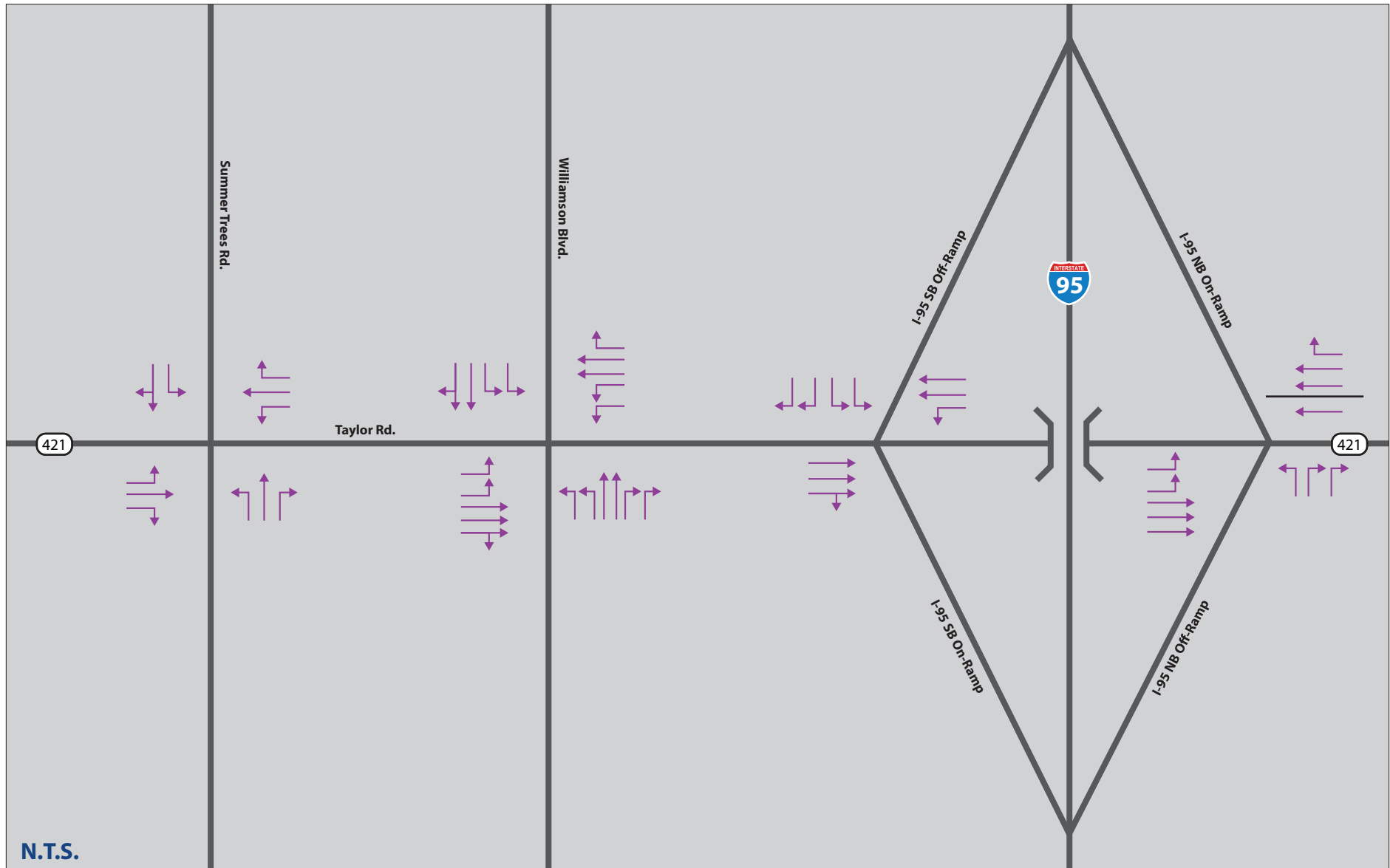
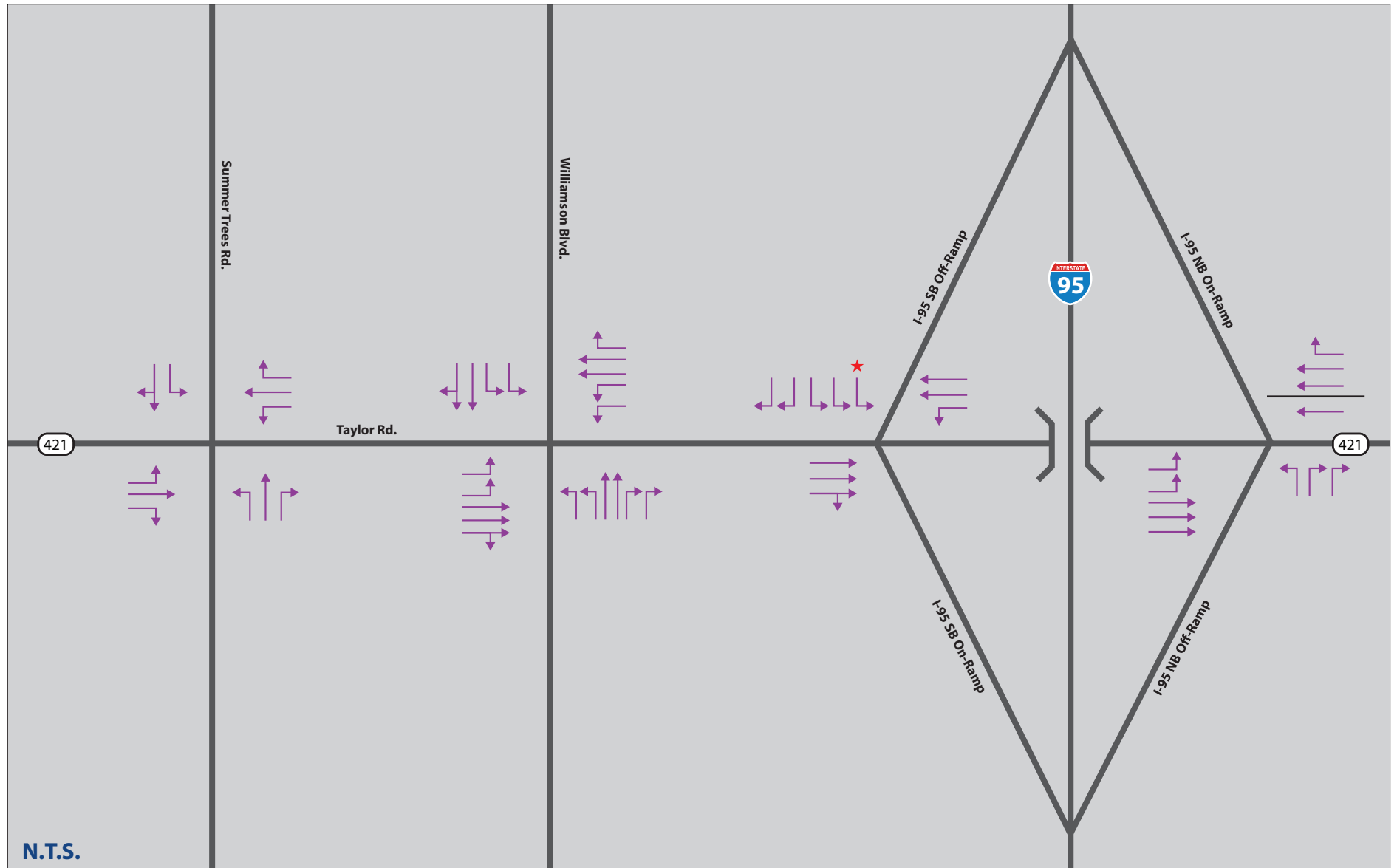


FIGURE 4-1
 No-Build Geometry
 I-95 at SR 421 (Taylor Road)

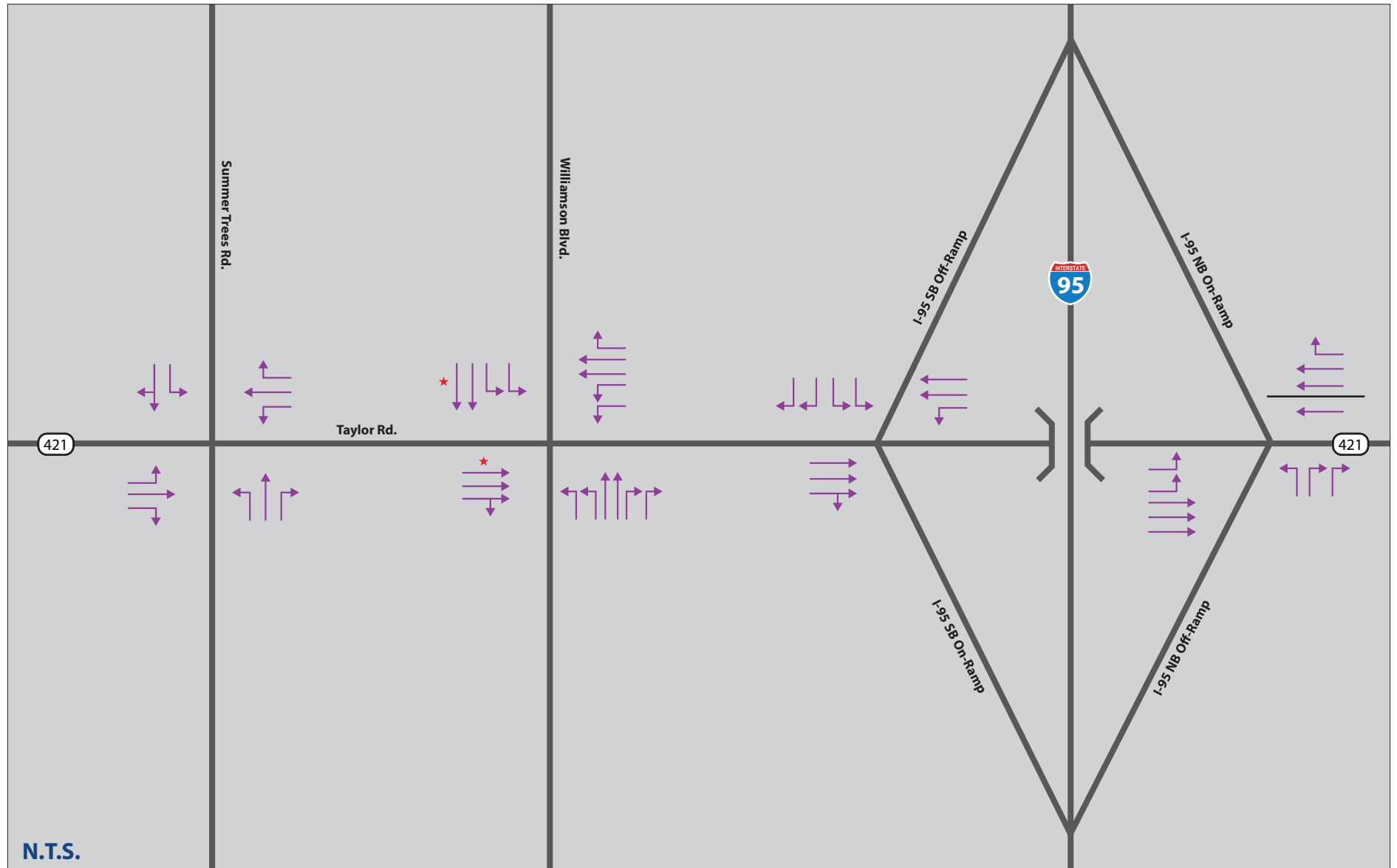
Source: VHB



↑ - Lane Geometry

★ - Add third southbound left turn lane at the intersection of I-95 southbound ramps and SR 421

FIGURE 4-1-1
Alternative 1 Geometry
I-95 at SR 421 (Taylor Road)





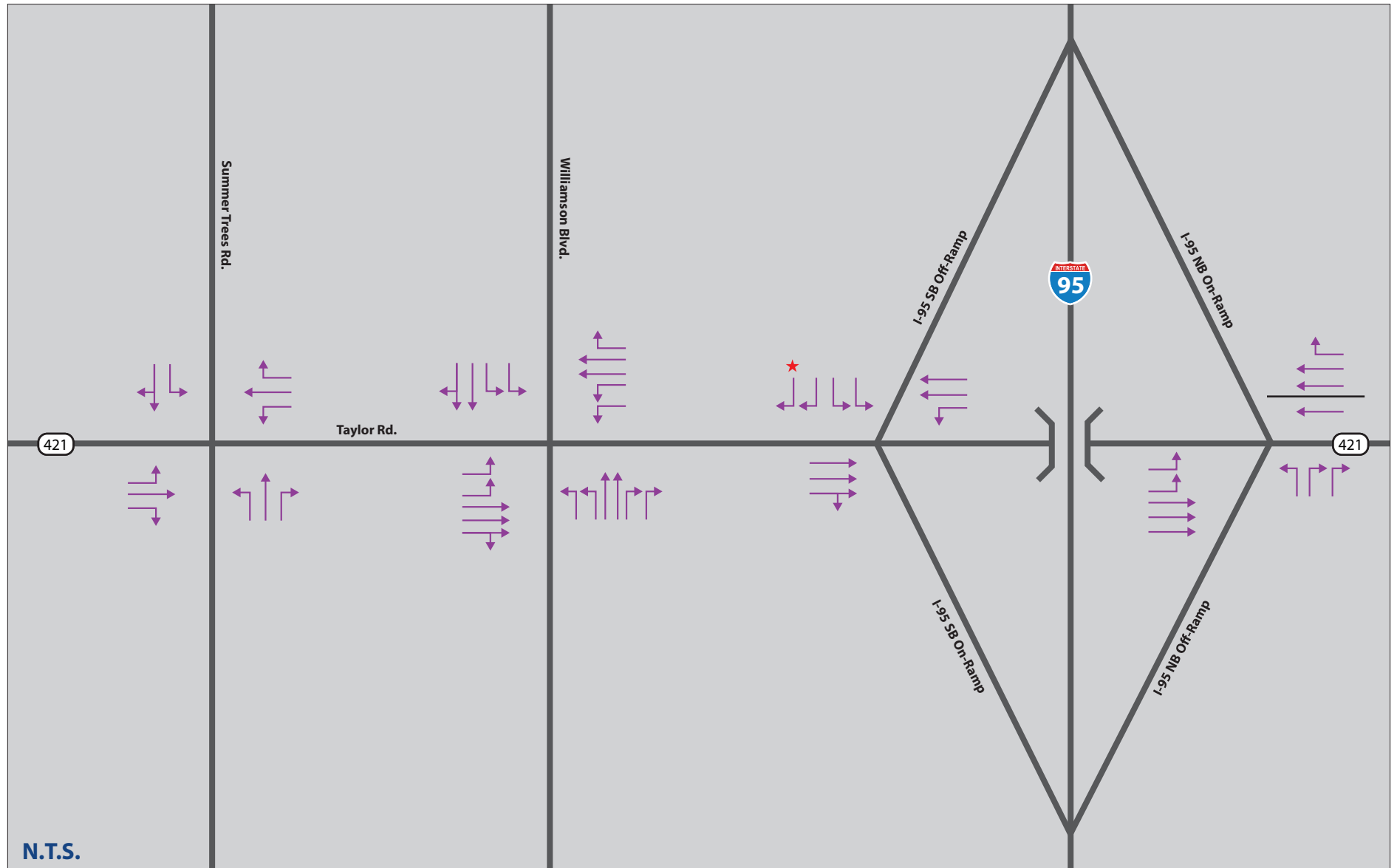
-  - Lane Geometry
-  - Restrict eastbound left and southbound right turn movements at the SR 421 and Williamson Boulevard intersection

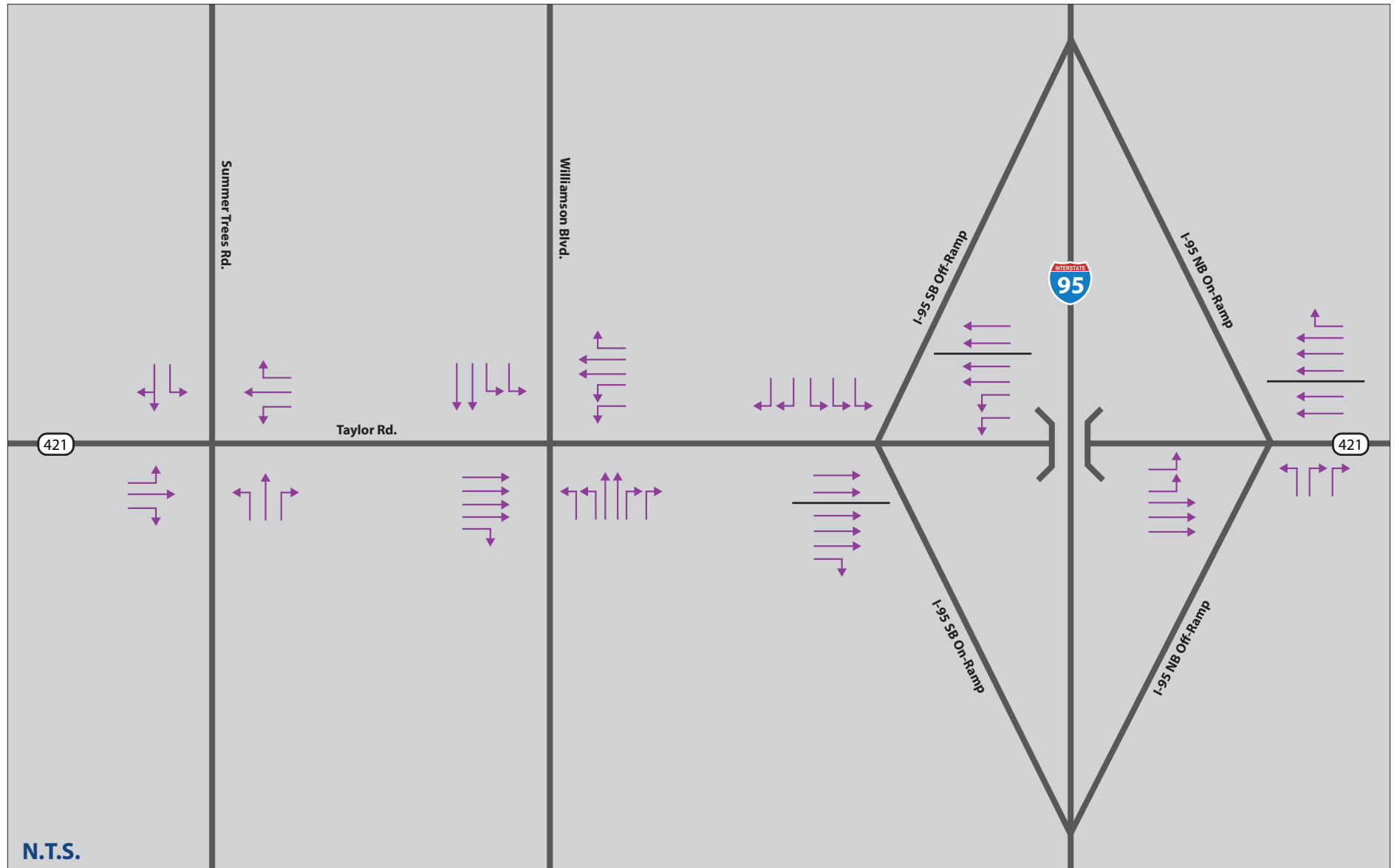
FIGURE 4-1-2
Alternative 2 Geometry
I-95 at SR 421 (Taylor Road)



↑ - Lane Geometry

★ - Remove free-flow southbound right condition at the I-95 southbound ramp and SR 421 intersection

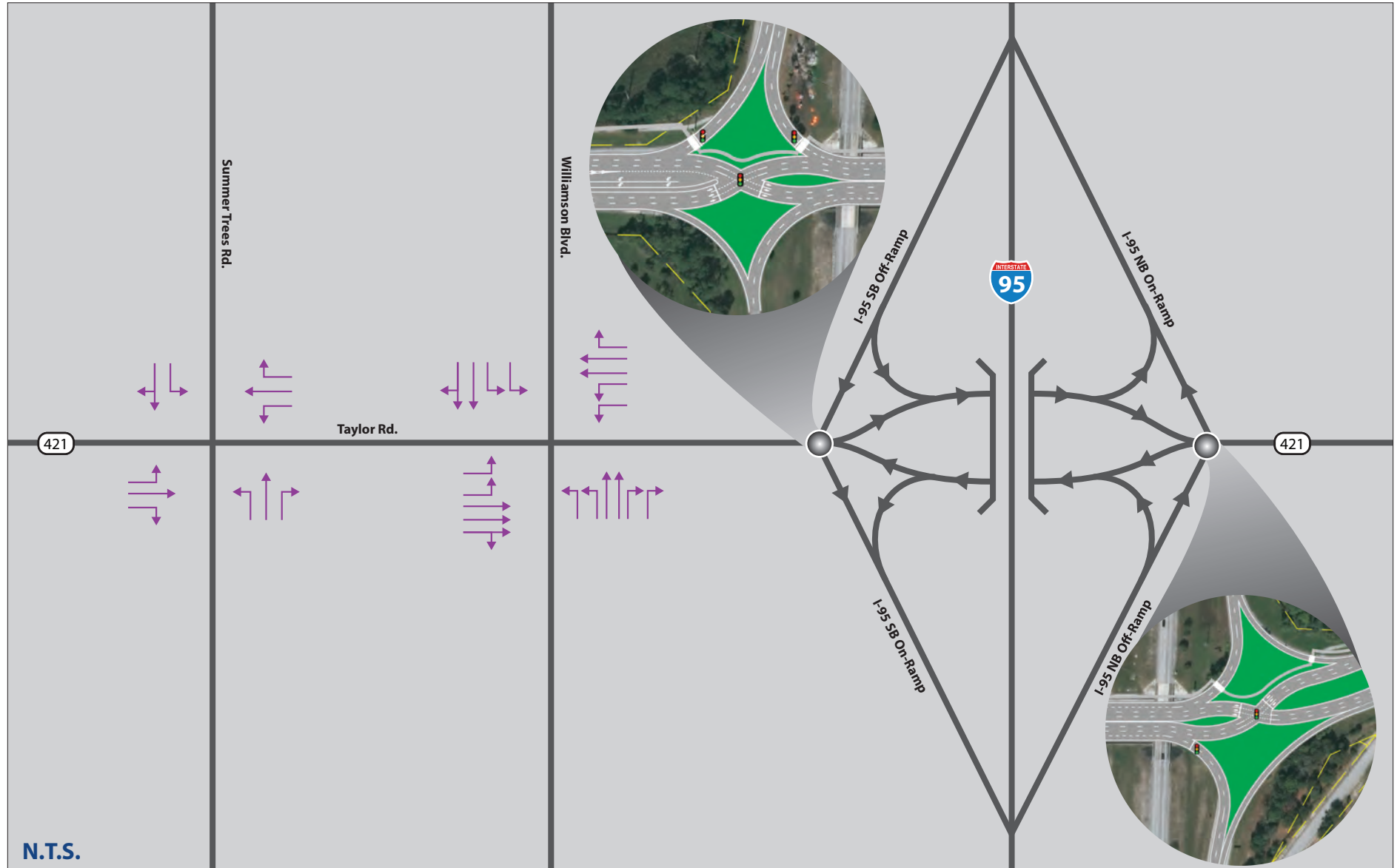
FIGURE 4-1-3
Alternative 3 Geometry
I-95 at SR 421 (Taylor Road)



 - Lane Geometry

Note: Ultimate improvement from SR 421 at I-95
Interchange Analysis, January 2009

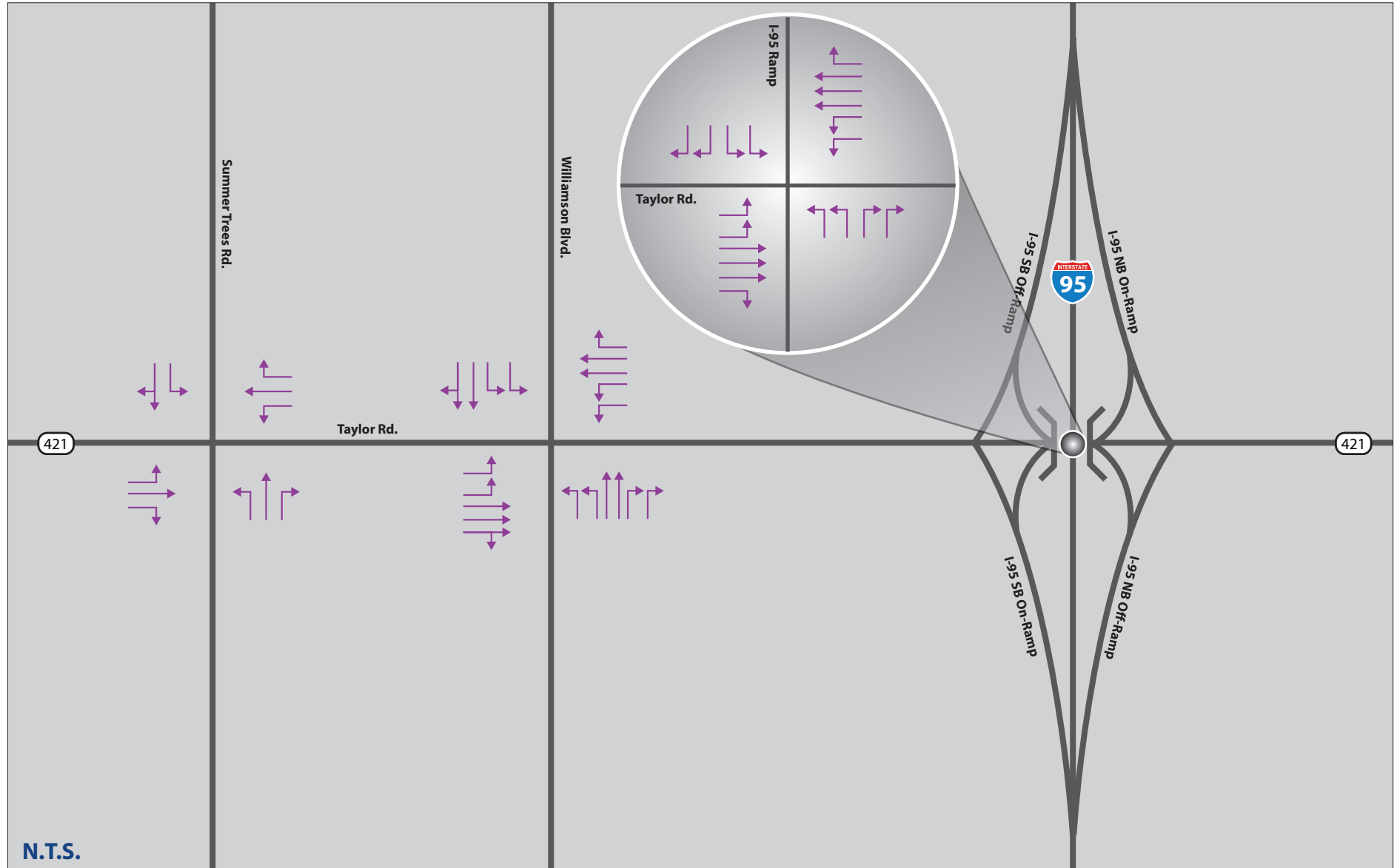
FIGURE 4-1-4
Alternative 4 Geometry
I-95 at SR 421 (Taylor Road)



 - Lane Geometry

Note: Diverging Diamond Interchange (DDI)

FIGURE 4-1-5
Alternative 5 Geometry
I-95 at SR 421 (Taylor Road)



 - Lane Geometry

Note: Single Point Urban Interchange (SPUI)

FIGURE 4-1-6
Alternative 6 Geometry
I-95 at SR 421 (Taylor Road)

4.2 No Build Alternative

The No Build Alternative assumes that the proposed interchange on I-95 at Pioneer Trail is not constructed, and all the improvements mentioned above and the projects currently programmed in the River to Sea 2035 Cost-Affordable LRTP will be implemented.

4.3 Build Alternatives

In addition to the No Build geometry, the Build Alternatives assume that the proposed interchange at I-95 and Pioneer Trail is constructed. The Build Alternatives also provide required geometry and signalization at the proposed interchange termini to attain acceptable LOS through the design year (2042).

4.4 I-95 at Pioneer Trail Interchange Configuration

The following two interchange configurations were evaluated for the Build Alternatives as part of this IJR:

- Diamond Interchange, and
- Partial Cloverleaf (Par-Clo) Interchange (with a southbound to eastbound loop ramp)

Preliminary concept plans were developed for this IJR for each of the Pioneer Trail interchange configurations under consideration. The proposed future Limited Access right-of-way limits are provided on both configurations. The current design concepts have been developed for conformance with design criteria, including AASHTO, FDOT Plans Preparation Manual (PPM), and the Manual on Uniform Traffic Control Devices (MUTCD).

Both potential configurations provide full movement interchanges with ramps to and from the north, as well as to and from the south. The specifics of each configuration are further described below. There are existing utilities running along both sides of Pioneer Trail and the west side of I-95. Impacts to these utilities will be addressed during the PD&E phase of the project to fine-tune the proposed configurations.

4.4.1 Diamond Interchange

This alternative is a diamond-type interchange at I-95 and Pioneer Trail, providing full movements. The diamond interchange is designed to meet current standards for federal-aid projects on the interstate system. This alternative provides single-lane on- and off-ramps from the north and south. A speed of 50 mph has been utilized for the ramp design. Adequate deceleration length and queue storage on the off-ramps are provided. Both ramp terminal intersections are considered to operate under signal control. The operational analysis for the Build Alternative is documented in **Section 6** of this IJR.

4.4.2 Par-Clo (southbound to eastbound loop ramp) with a Diamond Interchange

The Par-Clo alternative concept is similar to a Diamond Interchange with a single-lane loop ramp to serve southbound-to-eastbound movement in the southwest quadrant of the interchange. This alternative provides advantages in minimizing impacts to the wetlands on the northeast quadrant and potentially avoiding the transmission line in the northwest quadrant. A design speed of 35 mph was utilized for the loop ramp and a design speed of 50 mph was utilized for the design of the three diamond interchange ramps. This alternative requires signalization of the northbound ramp intersection while the southbound ramp intersection operates under stop control. There is an additional cost associated with the construction of the loop ramp. The operational analysis for the Build Alternative is documented in **Section 6** of this IJR.

4.5 Conceptual Signing Plan

All signing to be proposed is in compliance with the FDOT Design Standards and the 2009 MUTCD. Overhead advance-exit and exit-direction signs are proposed on the mainline of I-95 in the north and south directions. Signs are proposed at the 1 mile, 0.5 mile and exit gore locations. On Pioneer Trail, I-95 trailblazer signing in advance of the interchange is proposed (at a minimum) for motorists approaching I-95. **Figures 4-2 and 4-3** depict the conceptual signing plans for the two interchange alternatives.



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CR 4118	VOLUSIA	

DIAMOND INTERCHANGE CONCEPTUAL SIGNING PLAN I-95 / CR 4118	
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FIG. NO.
4-2



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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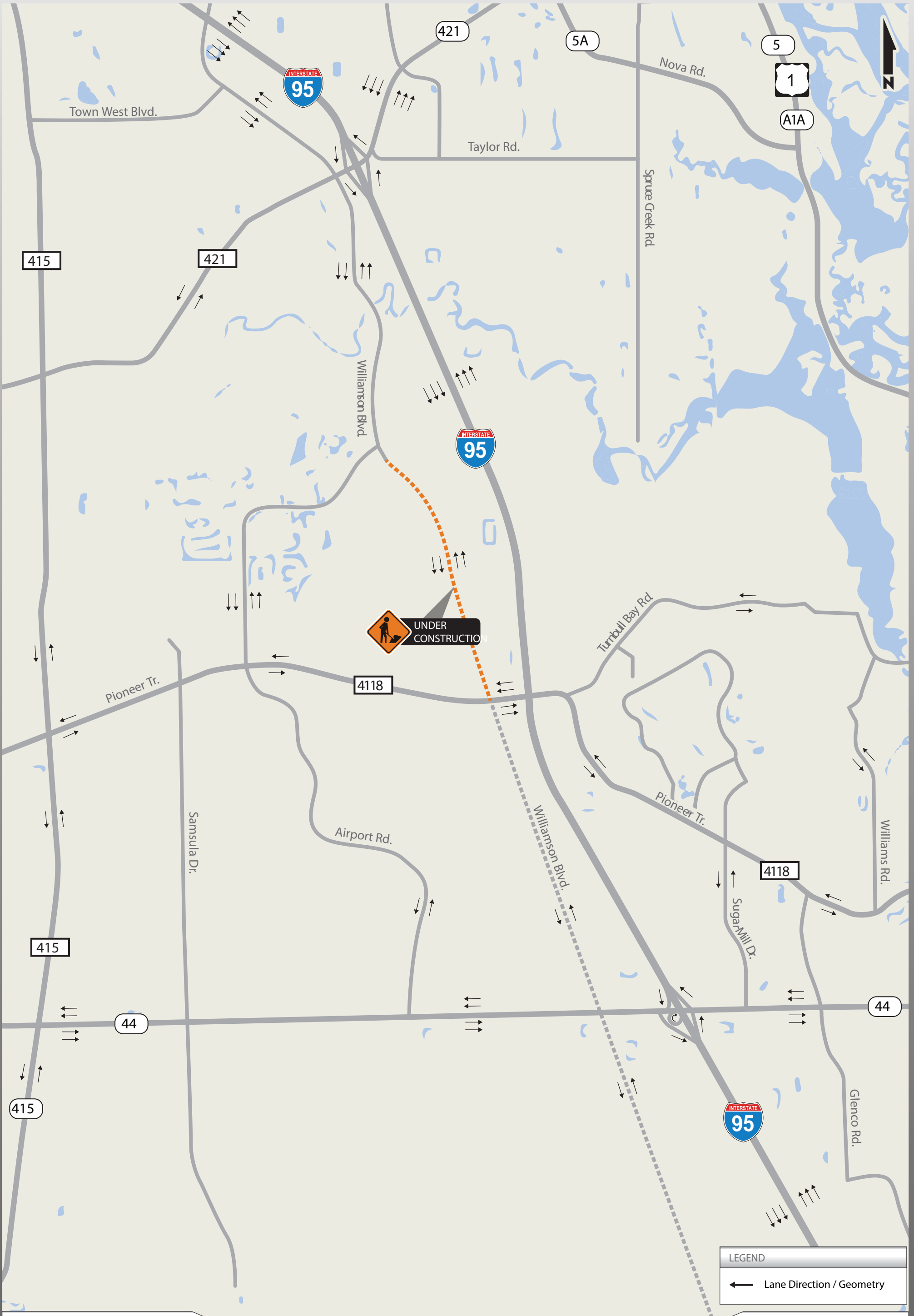
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CR 4118	VOLUSIA	

HALF DIAMOND INTERCHANGE
CONCEPTUAL SIGNING PLAN
I-95 / CR 4118

FIG. NO.
4-3

4.6 Roadway Geometry

Figure 4-4 illustrates the No Build intersection geometry of I-95, while **Figures 4-4-1 through 4-4-3** illustrate the No Build intersection geometry for SR 421/CR421, Pioneer Trail, SR 44, and Williamson Boulevard. **Figures 4-5 and 4-5-1 through 4-5-3** illustrate the Build intersection geometry. For both Build Alternatives, Pioneer Trail is considered widened within the AOI as a four-lane typical section between Williamson Boulevard and Turnbull Bay Road to accommodate the forecasted demand volumes. **Figure 4-5-2a** illustrates the I-95/Pioneer Trail Diamond Interchange intersection geometry. **Figure 4-5-2b** illustrates I-95/Pioneer Trail Par-Clo Interchange intersection geometry.

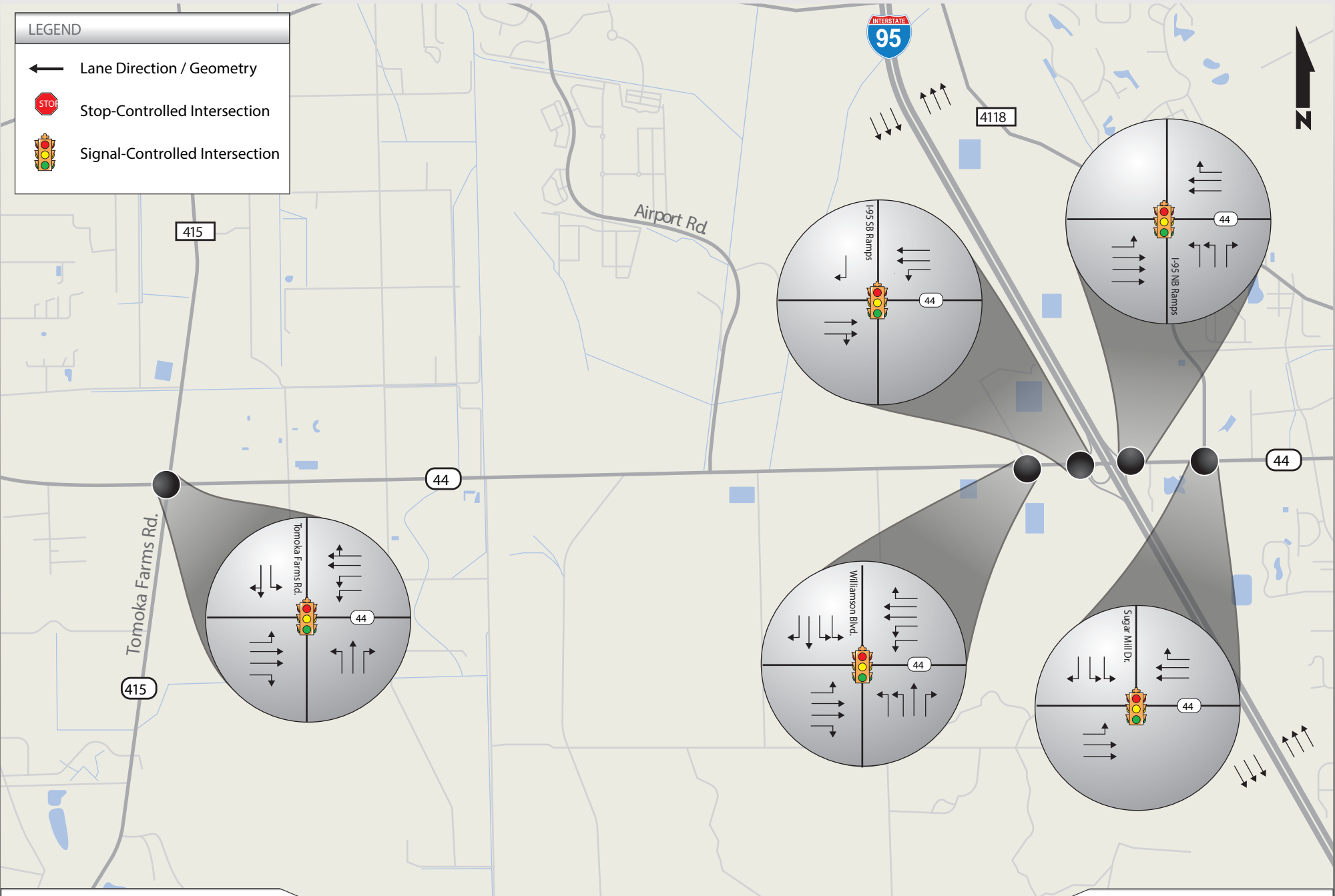


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 4-4
No Build Alternative - Mainline & Ramps Geometry

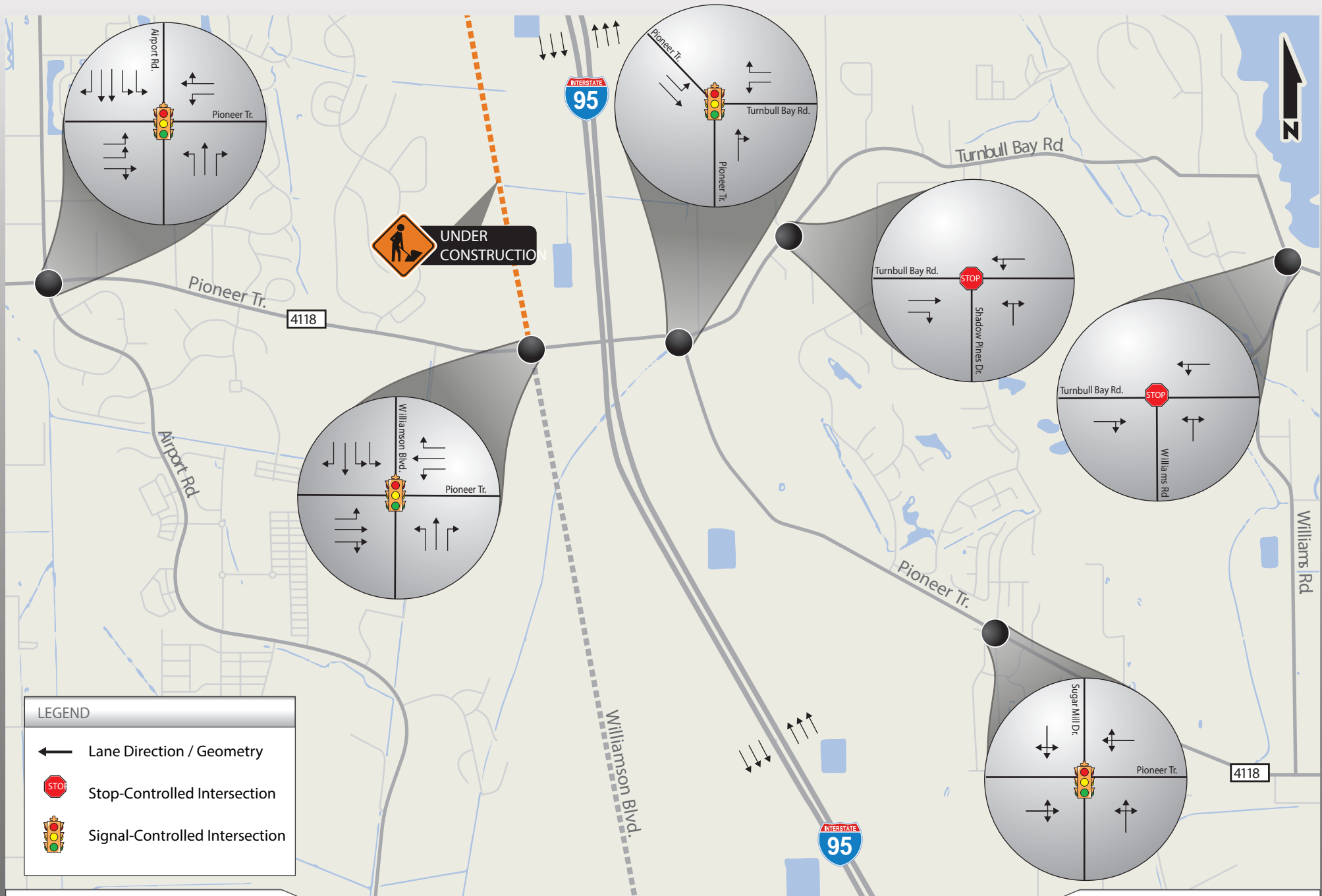


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 4-4-1
SR 44 - Geometry
(No Build Alternative)

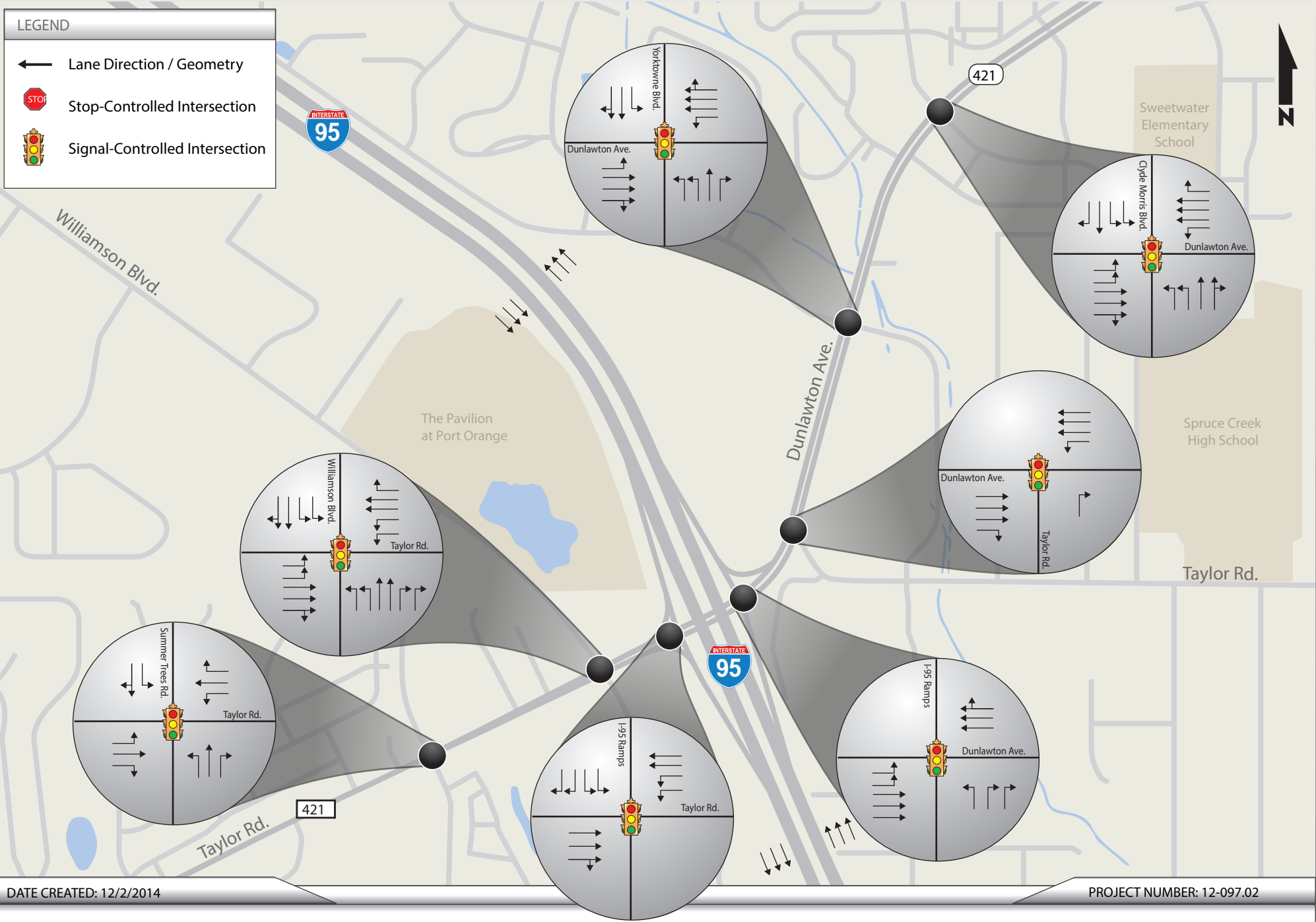


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 4-4-2
Pioneer Trail - Geometry
(No Build Alternative)

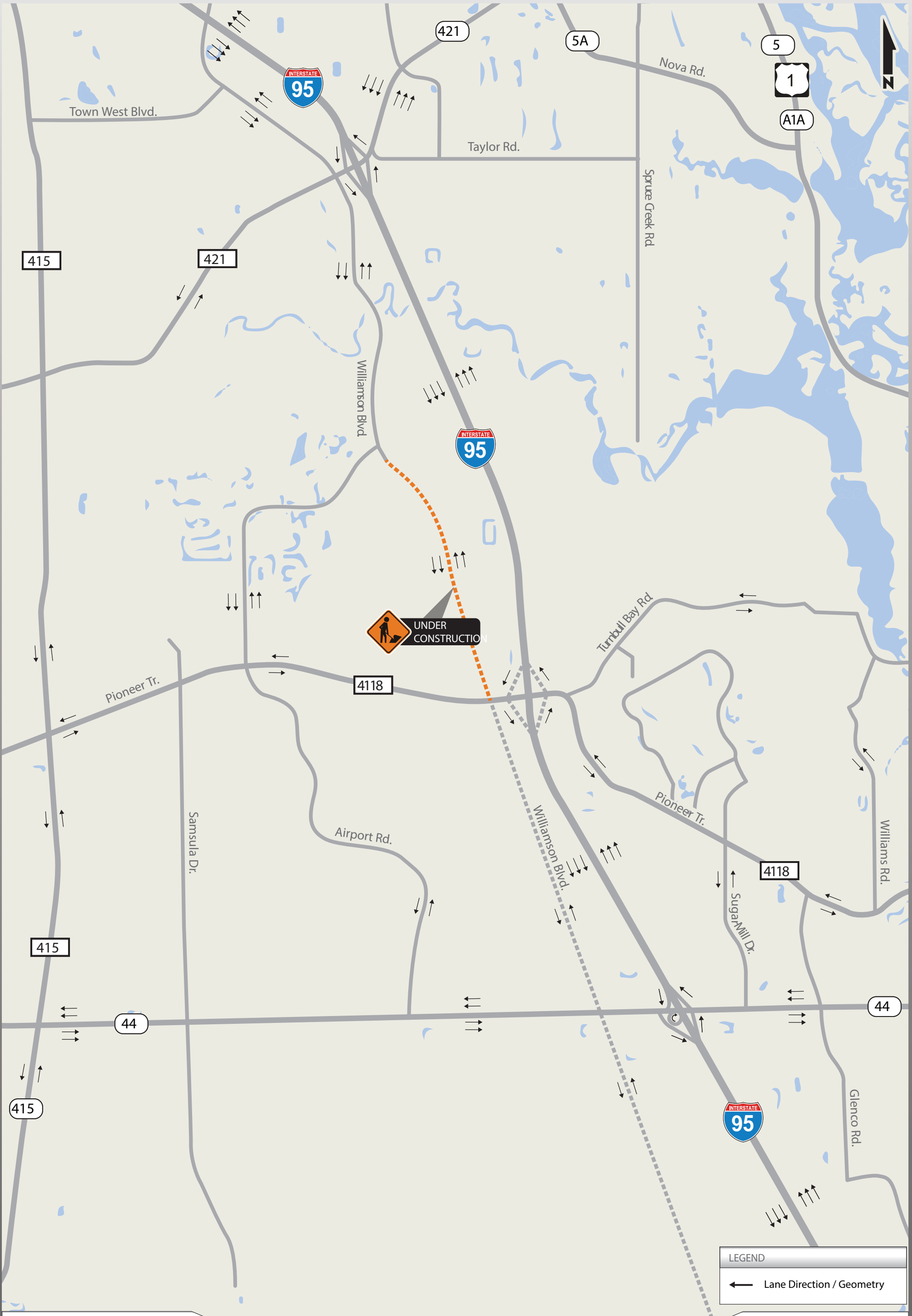


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 4-4-3
SR 421 - Geometry
(No Build Alternative)

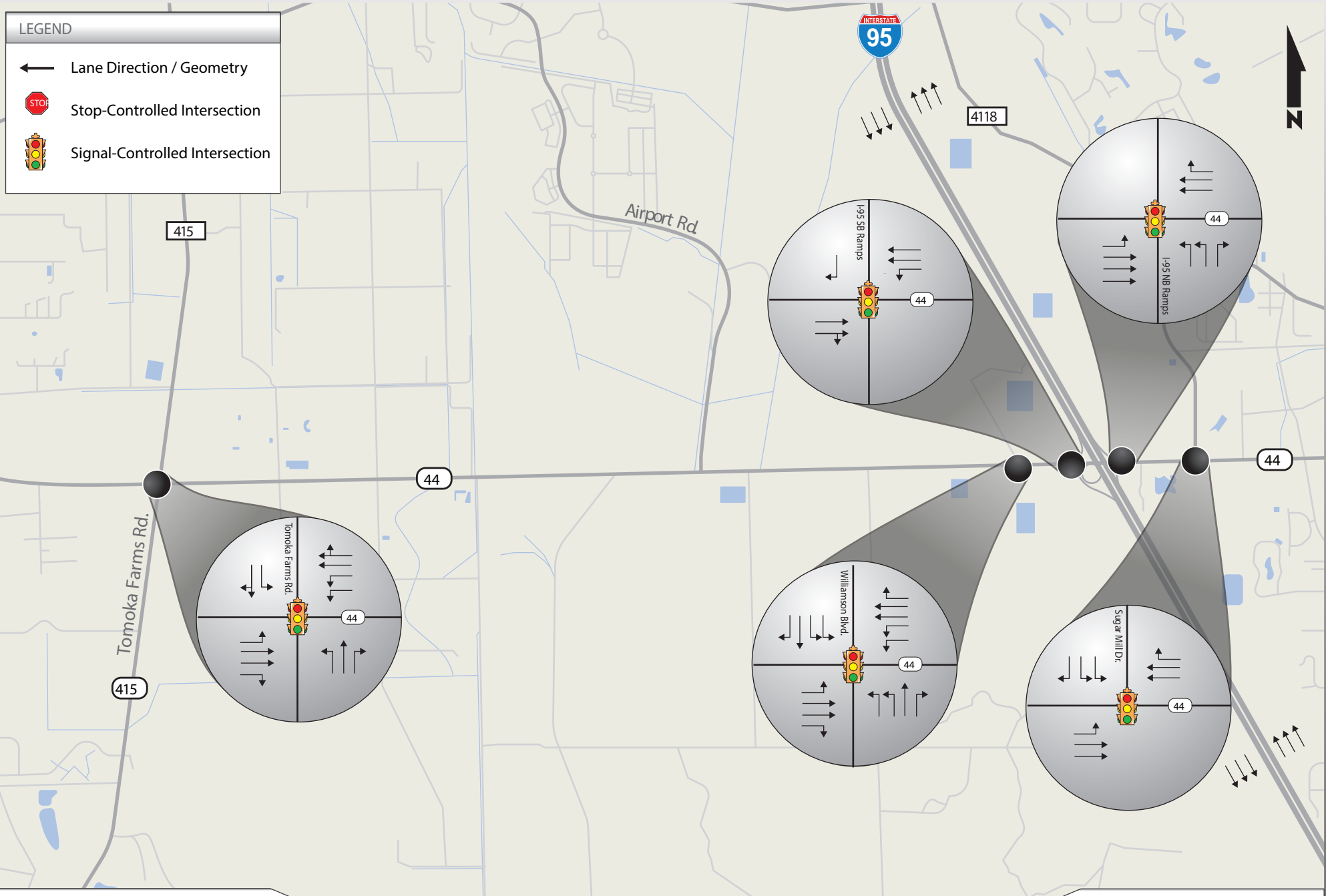


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I-95 at Pioneer Trail Interchange
Volusia County

Figure 4-5
Build Alternative - Mainline & Ramps Geometry

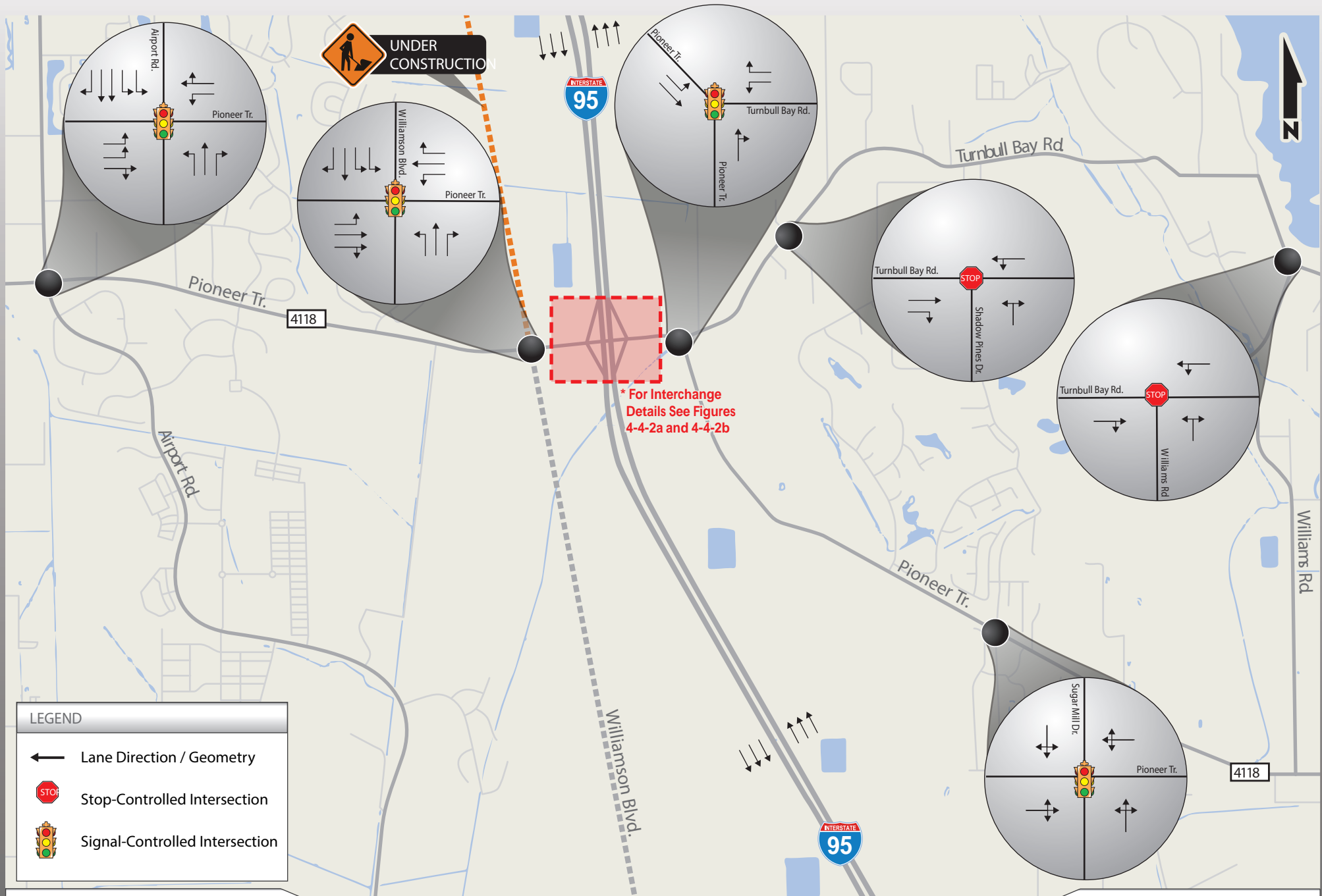


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 4-5-1
SR 44 - Geometry
(Build Alternative)

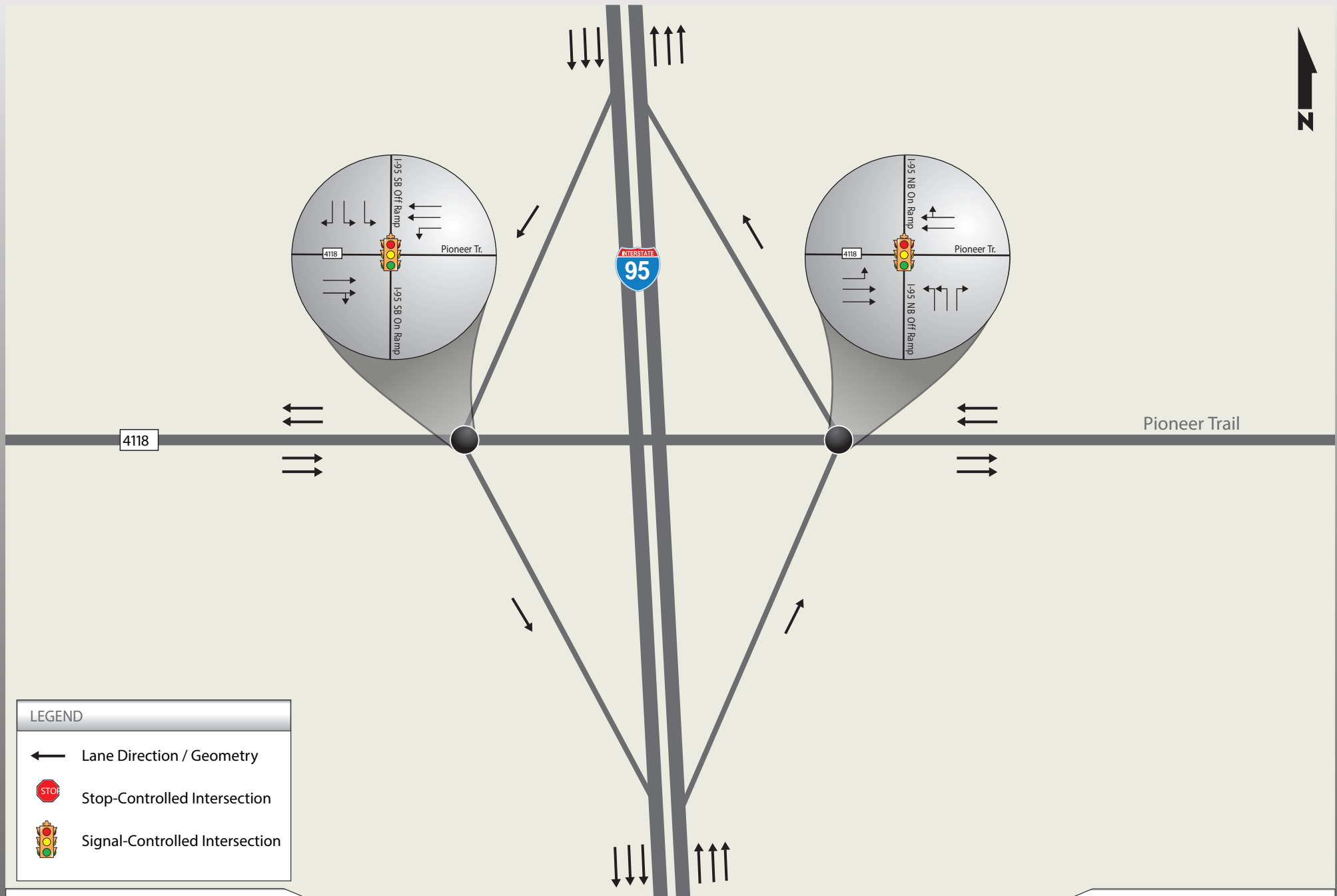


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I-95 at Pioneer Trail Interchange Volusia County

Figure 4-5-2
Pioneer Trail - Geometry
(Build Alternative)

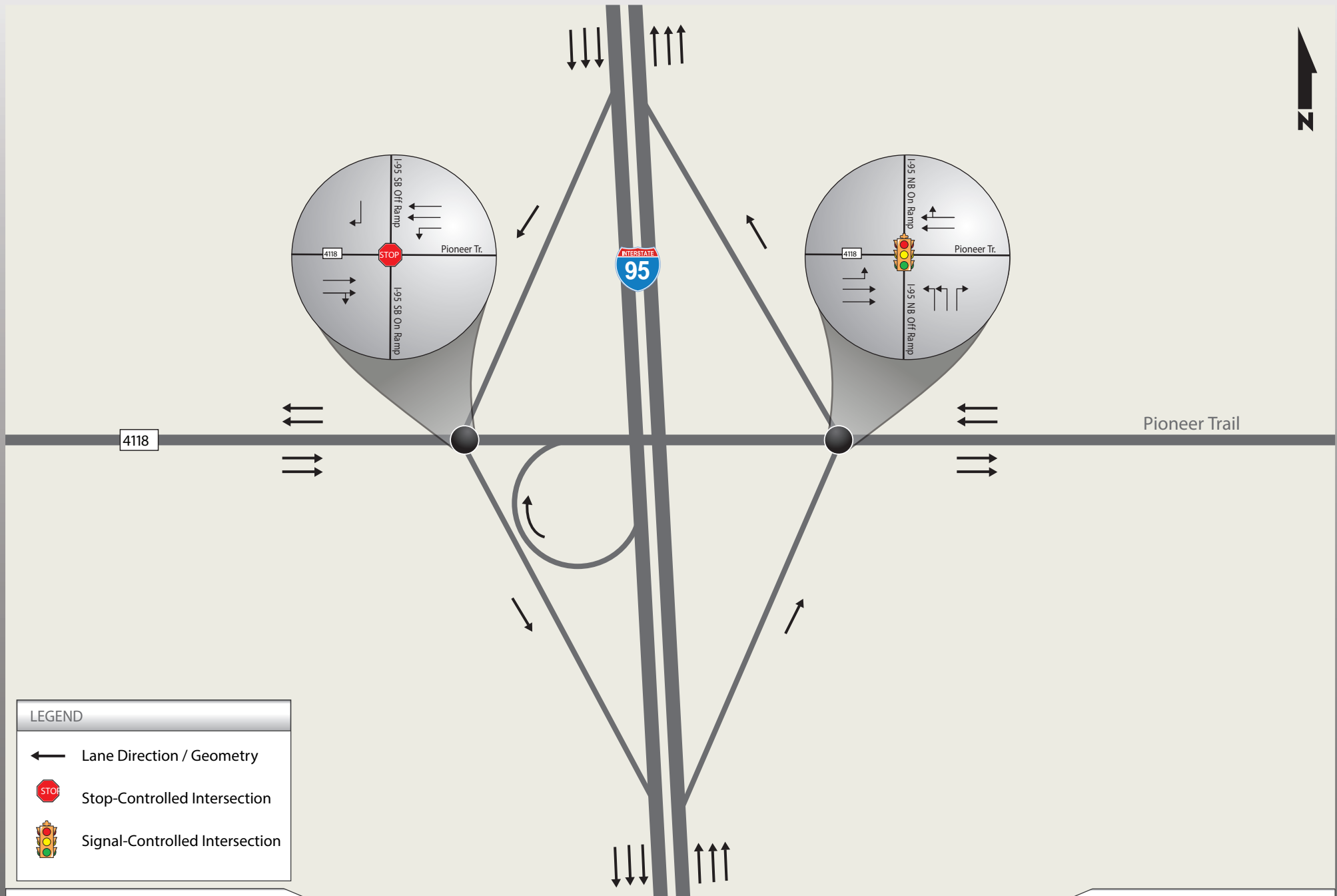


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I-95 at Pioneer Trail Interchange Volusia County

FIGURE 4-5-2a
Pioneer Trail - Geometry
(Build Alternative 1 - Diamond Interchange)



LEGEND

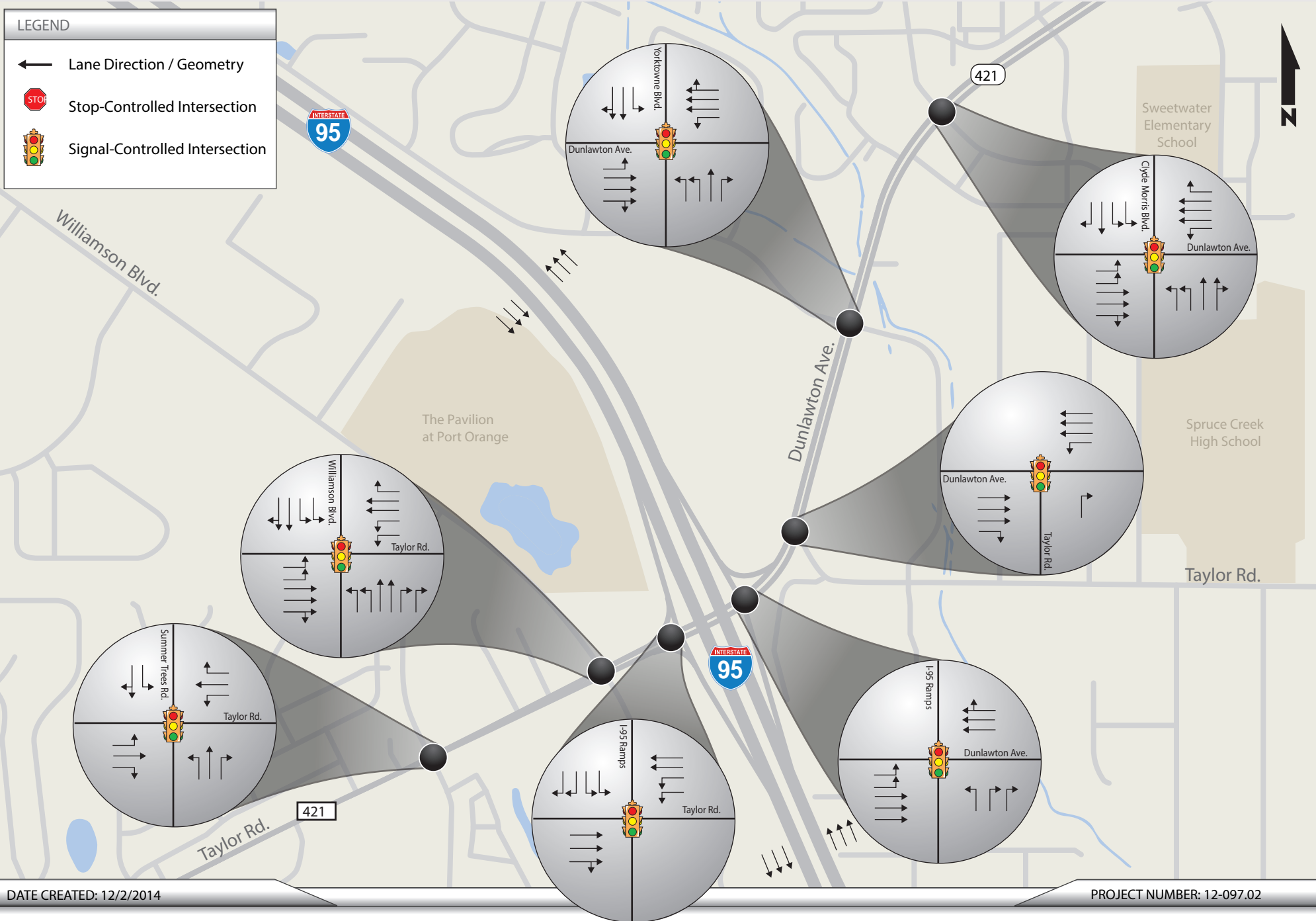
- ← Lane Direction / Geometry
- STOP Stop-Controlled Intersection
- Signal-Controlled Intersection

DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 4-5-2b
Pioneer Trail - Geometry
(Build Alternative 2 - Par - Clo Interchange)



DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 4-5-3
SR 421 - Geometry
(Build Alternative)

5.0 No-Build Operational Analysis

This chapter provides an analysis of the traffic flow operating conditions for the No Build Alternative. The No Build analysis was conducted utilizing the existing geometry along with the planned, programmed, and committed improvements. The No Build condition retains Pioneer Trail in its existing configuration with no access to I-95. The future conditions traffic operational analysis included an analysis of freeway segments, ramp merge/diverge locations, and intersections for each analysis year.

The future conditions traffic operations analysis used global input values consistent with existing conditions and the approved MLOU for the IJR, as listed below:

- Peak Hour Factor (PHF): 0.95 for both mainline and intersections
- Terrain = Level;
- I-95 Free-Flow Speed = 75 mph (mainline); and
- Lane Utilization Factor; Based on formulae or default, whichever is lower.

All other input values, including traffic volumes and number of lanes, are specific to the location, alternative, and analysis year. Future traffic volumes, described previously in Section 3.0 of the IJR, were used in the future analysis. For signalized intersections, signal timings were optimized for all future year conditions.

5.1 No Build Freeway Analysis

The level of service for the basic freeway sections was obtained utilizing HCM 2010 procedures and HCS 2010 software. **Tables 5-1 through 5-3** show the No Build DDHV, density and LOS of freeway segments within the study area for 2022, 2032 and 2042.

The analysis indicates that the I-95 freeway segments would operate at LOS B or better in the opening year (2022), LOS C or better in the mid-year (2032), and LOS D or better in the design year (2042), with the exception of the I-95 segment to the north of SR 421 which is projected to operate at LOS E during the p.m. peak period in the design year conditions.

**TABLE 5-1
YEAR 2022 NO BUILD ALTERNATIVE - FREEWAY LOS**

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
	I-95											
South of SR 44	2,574	12.5	B	2,106	10.2	A	2,106	10.2	A	2,574	12.5	B
South of SR 421	2,821	13.7	B	2,316	11.2	B	2,361	11.4	B	2,936	14.2	B
North of SR 421	3,549	17.4	B	2,855	13.8	B	2,857	13.8	B	3,517	17.2	B

**TABLE 5-2
YEAR 2032 NO BUILD ALTERNATIVE - FREEWAY LOS**

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
	I-95											
South of SR 44	3,564	17.5	B	2,916	14.1	B	2,916	14.1	B	3,564	17.5	B
South of SR 421	3,830	19.0	C	3,208	15.6	B	3,243	15.8	B	4,006	20.0	C
North of SR 421	4,533	23.4	C	3,801	18.8	C	3,779	18.7	C	4,659	24.3	C

**TABLE 5-3
YEAR 2042 NO BUILD ALTERNATIVE - FREEWAY LOS**

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
	I-95											
South of SR 44	4,604	23.9	C	3,766	18.6	C	3,766	18.6	C	4,604	23.9	C
South of SR 421	4,876	25.9	C	4,222	21.3	C	4,111	20.6	C	5,169	28.2	D
North of SR 421	5,569	31.9	D	4,981	26.7	D	4,700	24.6	C	5,929	35.7	E

5.2 No Build Merge/Diverge Analysis

The ramp merge/diverge analysis was conducted using HCM 2010 procedures and HCS 2010 software. **Tables 5-4 through 5-6** show the No Build DDHV, density and LOS of ramp merge/diverge movements within the study area for 2022, 2032 and 2042.

The ramp junctions are projected to operate at an acceptable LOS C or better during the opening year (2022) conditions and LOS D or better during the interim and design year conditions, with the exception of northbound on ramp and southbound off ramp junctions at SR 421 which are projected to operate at LOS E during the a.m. and p.m. peak hour periods in the design year conditions.

**TABLE 5-4
YEAR 2022 NO BUILD ALTERNATIVE - RAMP JUNCTION LOS**

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	533	19.9	B	472	17.1	B
	SB On Ramp	Merge	449	13.6	B	528	16.2	B
	SB Off Ramp (loop)	Diverge	486	16.5	B	714	20.6	C
	NB On Ramp	Merge	780	20.3	C	727	17.9	B
	SB Off Ramp	Diverge	173	17.7	B	176	21.2	C
I-95 at SR 421	NB Off Ramp	Diverge	539	21.0	C	413	18.1	B
	SB On Ramp	Merge	412	16.7	B	505	20.0	C
	NB On Ramp	Merge	1,267	25.6	C	909	21.1	C
	SB Off Ramp	Diverge	951	22.7	C	1,086	26.5	C

**TABLE 5-5
YEAR 2032 NO BUILD ALTERNATIVE - RAMP JUNCTION LOS**

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	808	25.9	C	674	22.2	C
	SB On Ramp	Merge	645	18.3	B	762	21.9	C
	SB Off Ramp (loop)	Diverge	587	20.8	C	867	25.7	C
	NB On Ramp	Merge	1,074	26.2	C	1,001	23.1	C
	SB Off Ramp	Diverge	350	23.0	C	337	27.2	C
I-95 at SR 421	NB Off Ramp	Diverge	731	26.8	C	565	23.4	C
	SB On Ramp	Merge	561	21.5	C	682	25.9	C
	NB On Ramp	Merge	1,434	31.0	D	1,101	26.2	C
	SB Off Ramp	Diverge	1,154	28.1	D	1,335	32.6	D

**TABLE 5-6
YEAR 2042 NO BUILD ALTERNATIVE - RAMP JUNCTION LOS**

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	1,058	31.5	D	847	27.0	C
	SB On Ramp	Merge	770	22.9	C	953	27.2	C
	SB Off Ramp (loop)	Diverge	677	25.3	C	1,007	30.8	D
	NB On Ramp	Merge	1,330	32.2	D	1,192	28.0	C
	SB Off Ramp	Diverge	549	28.6	D	511	32.9	D
I-95 at SR 421	NB Off Ramp	Diverge	922	32.1	D	718	28.1	D
	SB On Ramp	Merge	617	26.7	C	841	32.1	D
	NB On Ramp	Merge	1,615	36.7	E	1,307	31.4	D
	SB Off Ramp	Diverge	1,375	34.1	D	1,601	38.5	E

5.3 No Build Intersection Operational Analysis

Intersection operational analysis for the No Build condition was performed for the opening (2022), interim (2032) and design (2042) years for the morning and evening peak hour conditions. The results of the intersection analysis are summarized in **Tables 5-7 through 5-9** and the Synchro outputs were provided in **Appendix I. Figures 5-1 through 5-3** depict the No Build Alternative volumes and LOS for mainline, ramp junctions and study intersections.

I-95/SR 421 Interchange Area

The SR 421 at I-95 southbound ramps intersection is projected to operate at LOS D during the opening year, LOS E during interim year and at LOS F during design year conditions. The SR 421 and I-95 northbound ramp intersection is projected operate at an acceptable LOS C through the interim year, then at LOS E for the design year.

The study intersections along SR 421 corridor projected to fall below acceptable LOS conditions include:

- Williamson Boulevard (2022);
- Clyde Morris Boulevard (2022); and
- Yorktowne Boulevard (2032).

I-95/SR 44 Interchange

The I-95/SR 44 ramp terminal intersections operate at LOS E during the design year conditions.

The study intersections projected to fall below acceptable LOS along SR 44 corridor include:

- Williamson Boulevard (2032);
- Tomoka Farms Road (2042); and
- Sugar Mill Drive (2042).

TABLE 5-7
YEAR 2022 NO BUILD ALTERNATIVE - INTERSECTION LEVEL OF SERVICE

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
SR 44/Tomoka Farms Road	Signalized	28.7	C	36.3	D
SR 44/Williamson Boulevard	Signalized	18.8	B	27.7	C
SR 44/I-95 NB Ramps	Signalized	12.6	B	12.7	B
SR 44/Sugar Mill Drive	Signalized	17.4	B	10.4	B
SR 421/Summer Trees Road	Signalized	32.4	C	28.7	C
SR 421/Williamson Boulevard	Signalized	64.7	E	74.9	E
SR 421/I-95 SB Ramps	Signalized	35.3	D	35.7	D
SR 421/I-95 NB Ramps	Signalized	20.4	C	13.1	B
SR 421/Taylor Road	Signalized	13.9	B	11.5	B
SR 421/Yorktowne Boulevard	Signalized	47.0	D	48.7	D
SR 421/Clyde Morris Boulevard	Signalized	46.2	D	66.7	E
Pioneer Trail/Airport Road	Signalized	30.2	C	31.5	C
Pioneer Trail/Williamson Boulevard	Signalized	14.2	B	14.9	B
Pioneer Trail/Sugar Mill Drive	Signalized	20.4	C	20.3	C
SR 44/I-95 SB Ramps	Stop	11.5/26.5	B/D	15.9/17.1	C/C
Pioneer Trail/Turnbull Bay Road	Stop	8.4/14.3	A/B	8.3/13.8	A/B
Turnbull Bay Road/Shadow Pines Drive	Stop	7.5/10.3	A/B	7.6/10.0	A/B
Turnbull Bay Road/Williams Road	Stop	7.8/11.3	A/B	7.7/11.2	A/B

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

TABLE 5-8
YEAR 2032 NO BUILD ALTERNATIVE - INTERSECTION LEVEL OF SERVICE

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
SR 44/Tomoka Farms Road	Signalized	36.2	D	49.9	D
SR 44/Williamson Boulevard	Signalized	40.3	D	69.9	E
SR 44/I-95 NB Ramps	Signalized	23.8	C	18.5	B
SR 44/Sugar Mill Drive	Signalized	30.8	C	19.3	B
SR 421/Summer Trees Road	Signalized	35.1	D	47.7	D
SR 421/Williamson Boulevard	Signalized	128.9	F	120.2	F
SR 421/I-95 SB Ramps	Signalized	63.8	E	65.1	E
SR 421/I-95 NB Ramps	Signalized	31.6	C	22.9	C
SR 421/Taylor Road	Signalized	17.5	B	24.4	C
SR 421/Yorktowne Boulevard	Signalized	97.0	F	79.4	E
SR 421/Clyde Morris Boulevard	Signalized	53.3	D	78.3	E
Pioneer Trail/Airport Road	Signalized	39.6	D	33.8	C
Pioneer Trail/Williamson Boulevard	Signalized	19.5	B	20.2	C
Pioneer Trail/Sugar Mill Drive	Signalized	22.5	C	22.3	C
SR 44/I-95 SB Ramps	Stop	16.4/260.3	C/F	22.5/55.1	C/F
Pioneer Trail/Turnbull Bay Road	Stop	9.5/40.6	A/E	9.5/32.1	A/D
Turnbull Bay Road/Shadow Pines Drive	Stop	7.7/11.7	A/B	7.7/11.0	A/B
Turnbull Bay Road/Williams Road	Stop	8.2/19.2	A/C	8.0/13.9	A/B

Notes

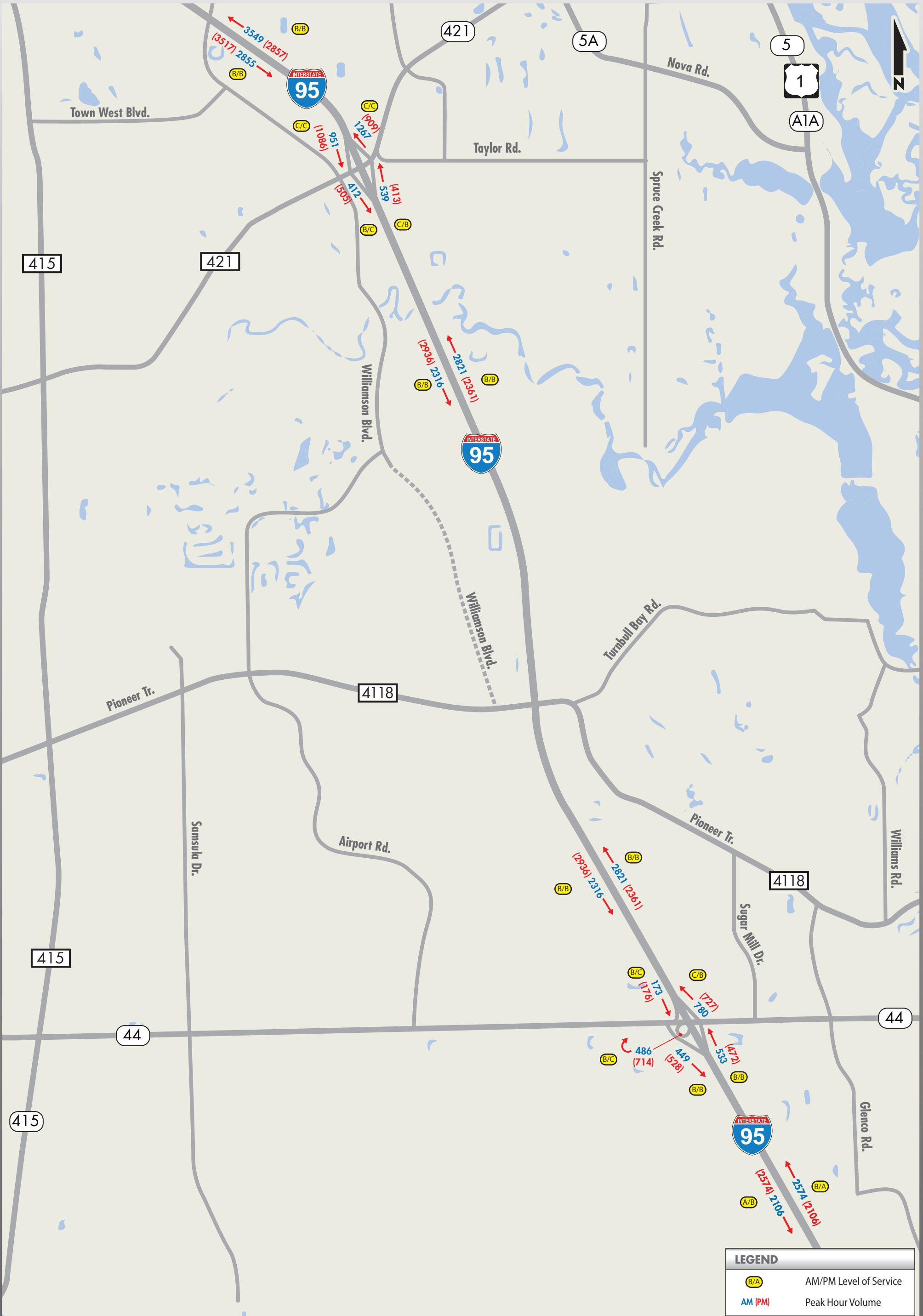
1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

TABLE 5-9
YEAR 2042 NO BUILD ALTERNATIVE - INTERSECTION LEVEL OF SERVICE

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
SR 44/Tomoka Farms Road	Signalized	69.1	E	118.4	F
SR 44/Williamson Boulevard	Signalized	94.2	F	136.4	F
SR 44/I-95 NB Ramps	Signalized	71.8	E	21.5	C
SR 44/Sugar Mill Drive	Signalized	86.7	F	22.3	C
SR 421/Summer Trees Road	Signalized	41.2	D	53.9	D
SR 421/Williamson Boulevard	Signalized	222.2	F	194.4	F
SR 421/I-95 SB Ramps	Signalized	69.7	E	85.5	F
SR 421/I-95 NB Ramps	Signalized	57.6	E	49.4	D
SR 421/Taylor Road	Signalized	27.8	C	34.2	C
SR 421/Yorktowne Boulevard	Signalized	132.5	F	111.5	F
SR 421/Clyde Morris Boulevard	Signalized	58.6	E	87.1	F
Pioneer Trail/Airport Road	Signalized	52.8	D	44.4	D
Pioneer Trail/Williamson Boulevard	Signalized	39.7	D	33.6	C
Pioneer Trail/Sugar Mill Drive	Signalized	27.8	C	31.8	C
SR 44/I-95 SB Ramps	Signalized	65.7	E	54.2	D
Pioneer Trail/Turnbull Bay Road	Signalized	14.6	B	13.8	B
Turnbull Bay Road/Shadow Pines Drive	Stop	7.9/13.6	A/B	7.9/12.2	A/B
Turnbull Bay Road/Williams Road	Stop	8.7/46.1	A/E	8.3/20.1	A/C

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

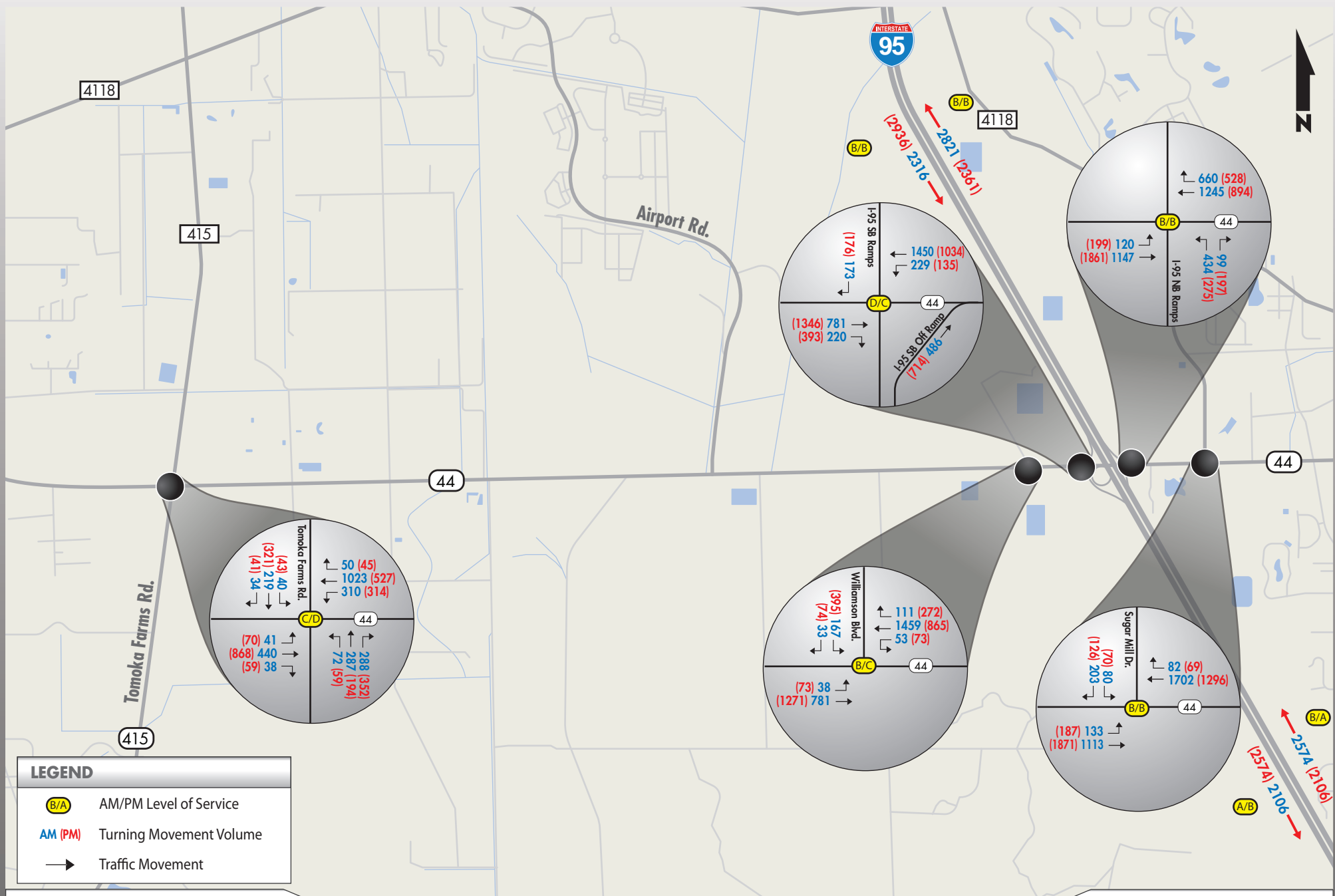


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 5-1
Year 2022 Mainline AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)

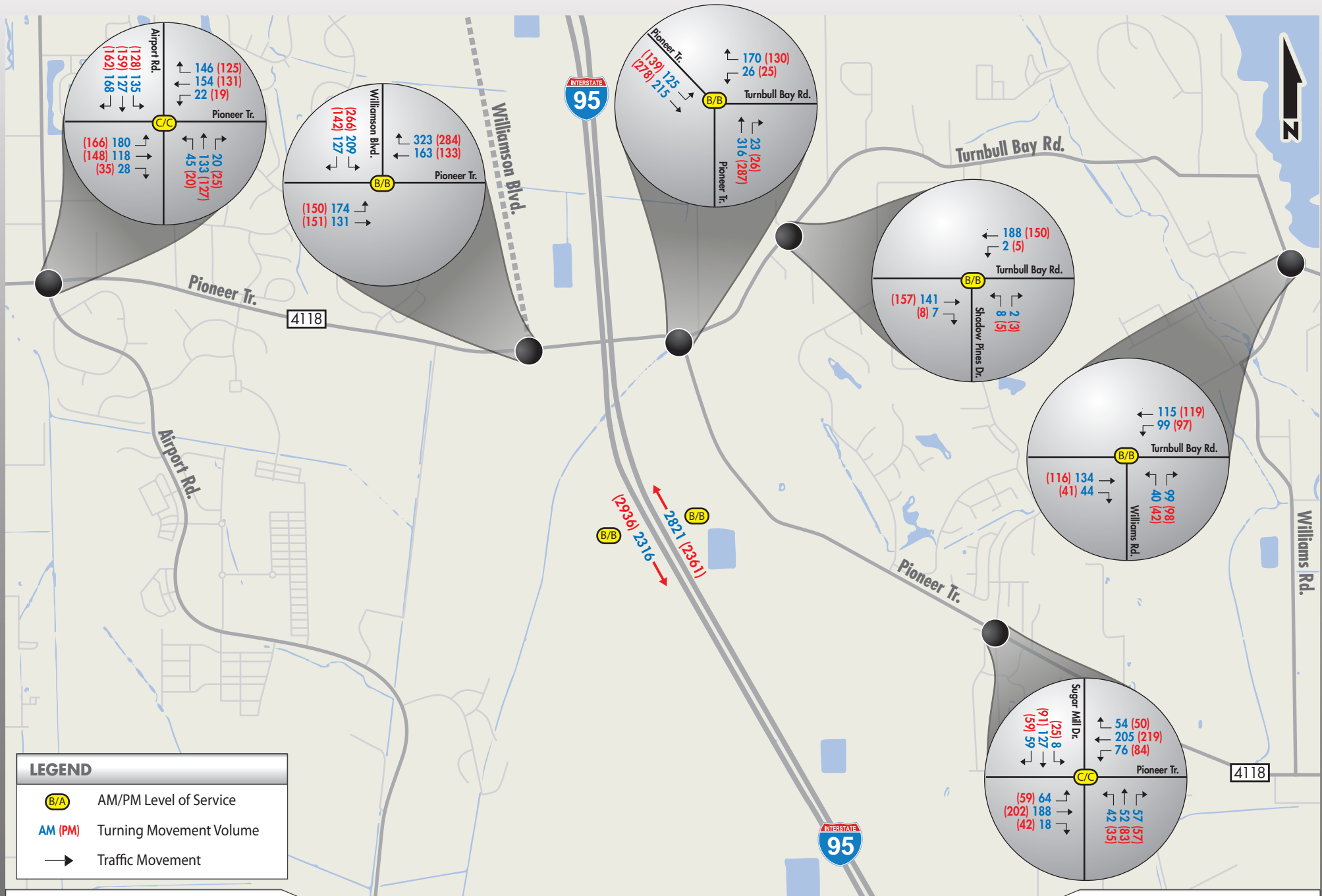


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I-95 at Pioneer Trail Interchange Volusia County

Figure 5-1-1
SR 44 - Year 2022 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)



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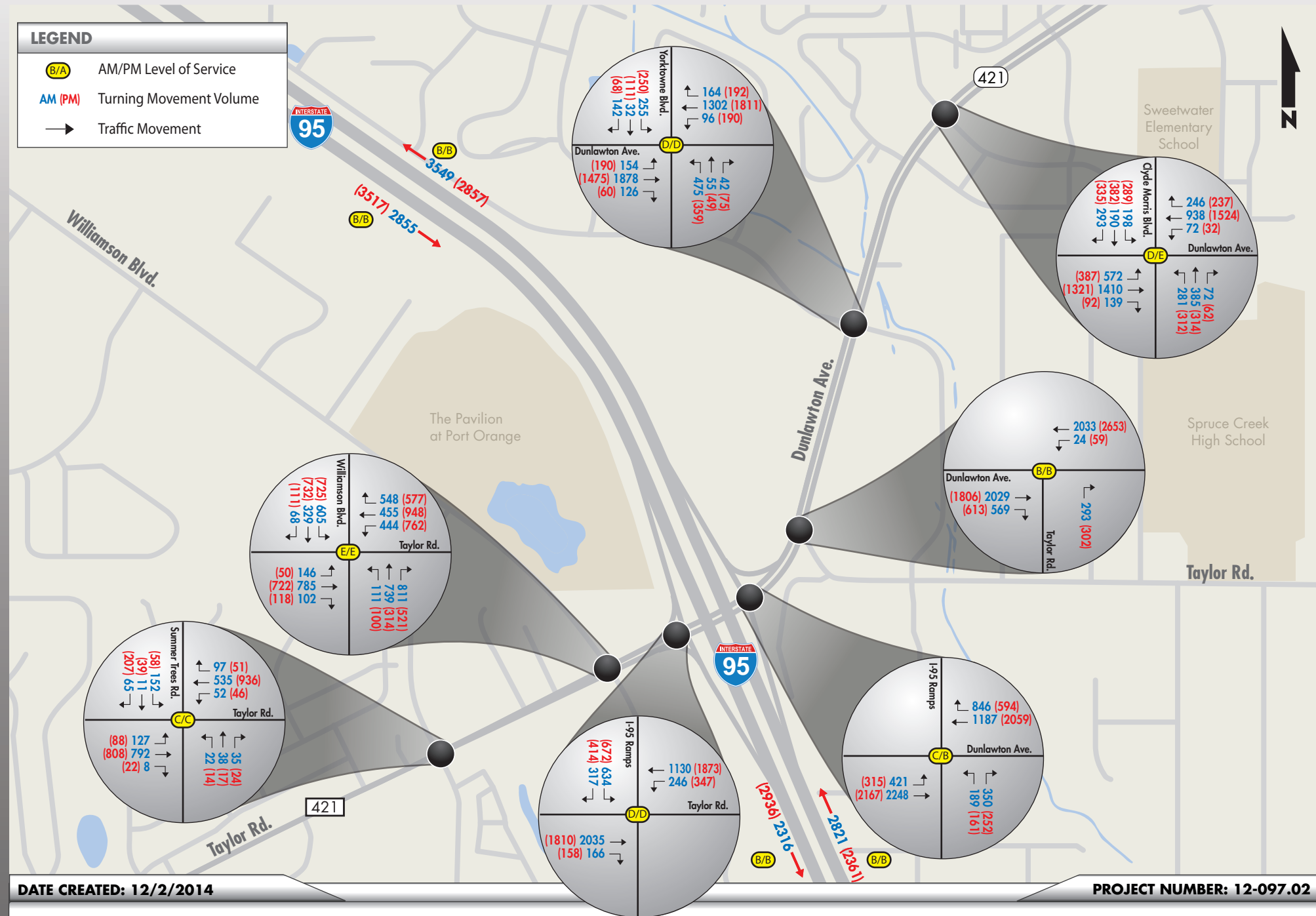
PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 5-1-2
Pioneer Trail - Year 2022 AM & PM Peak Hour Volumes and Level of Service (No Build Alternative)

LEGEND

- (B/A)** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement

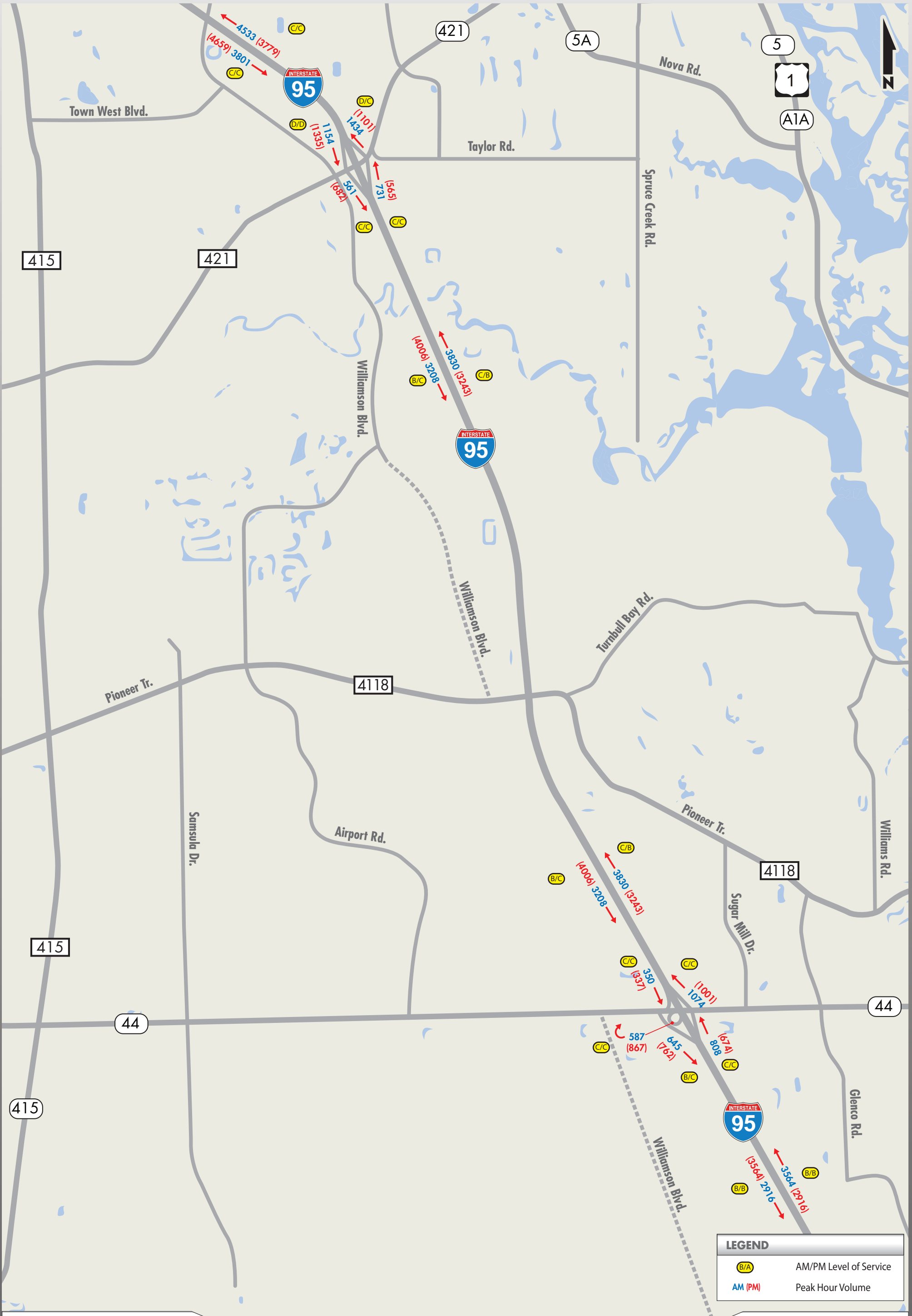


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I-95 at Pioneer Trail Interchange Volusia County

Figure 5-1-3
SR 421 - Year 2022 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)



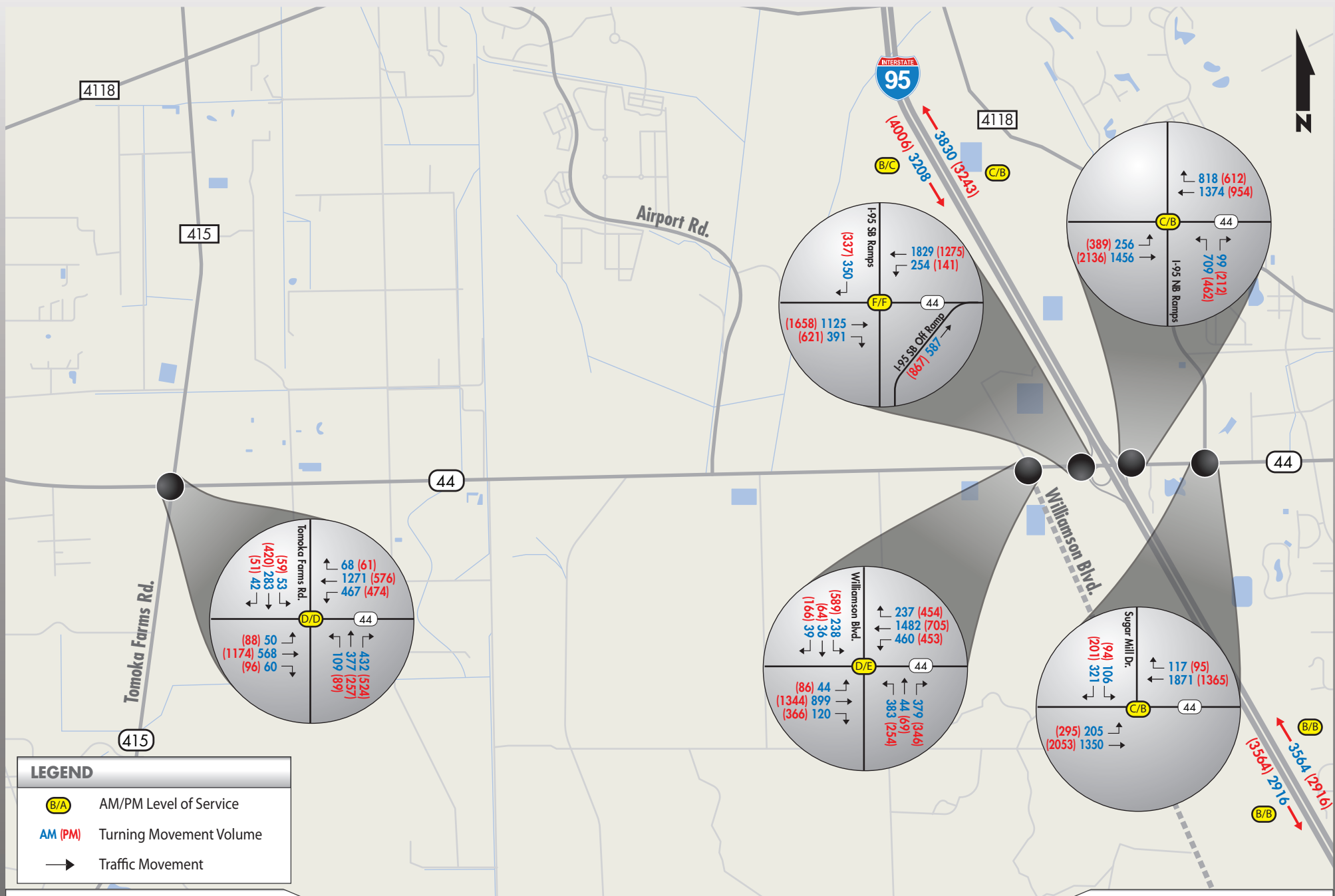
LEGEND	
B/A	AM/PM Level of Service
AM (PM)	Peak Hour Volume

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PROJECT NUMBER: 12-097.02

**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 5-2
Year 2032 Mainline AM & PM Peak Hour Volumes and Level of Service (No Build Alternative)

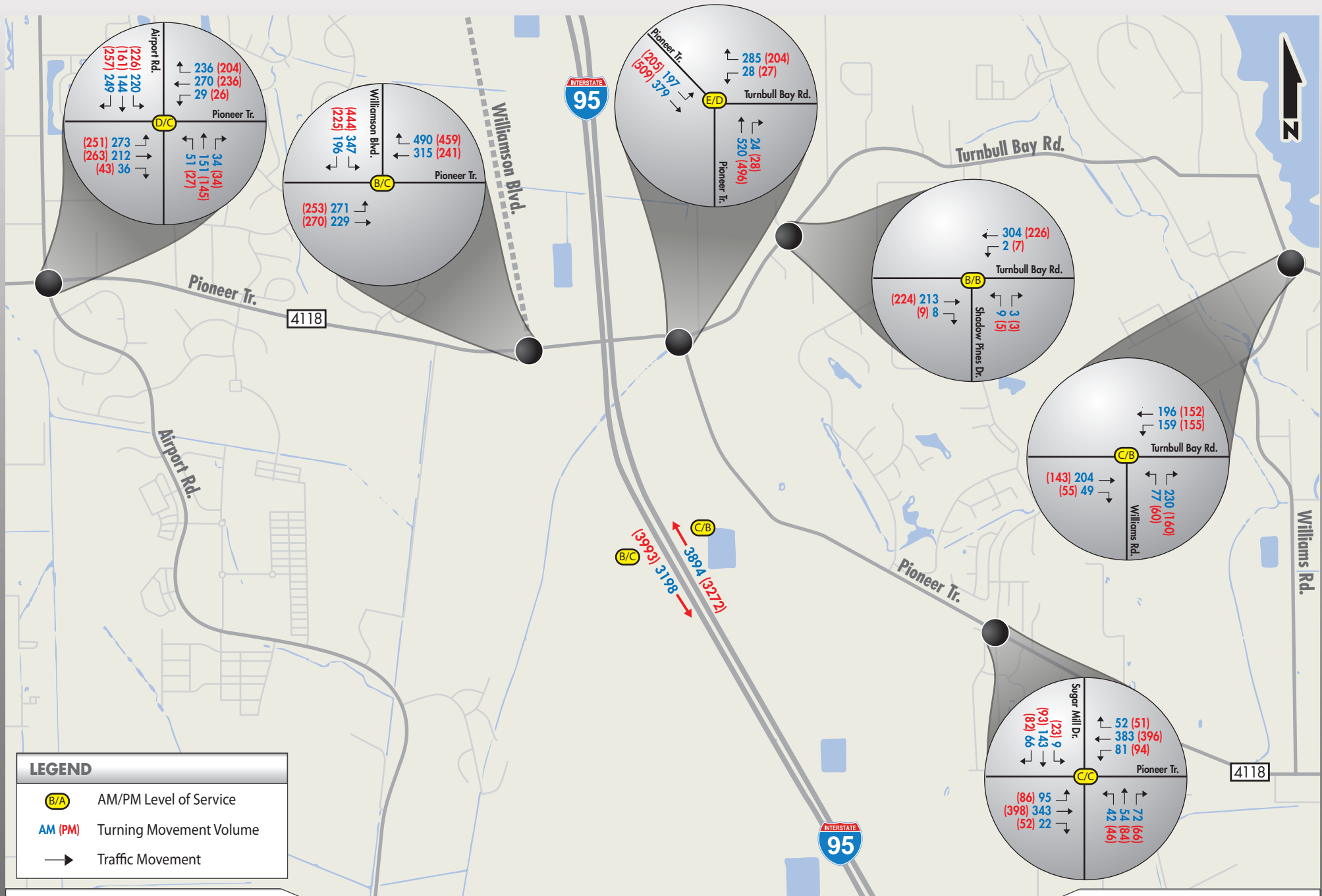


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I-95 at Pioneer Trail Interchange Volusia County

Figure 5-2-1
SR 44 - Year 2032 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)



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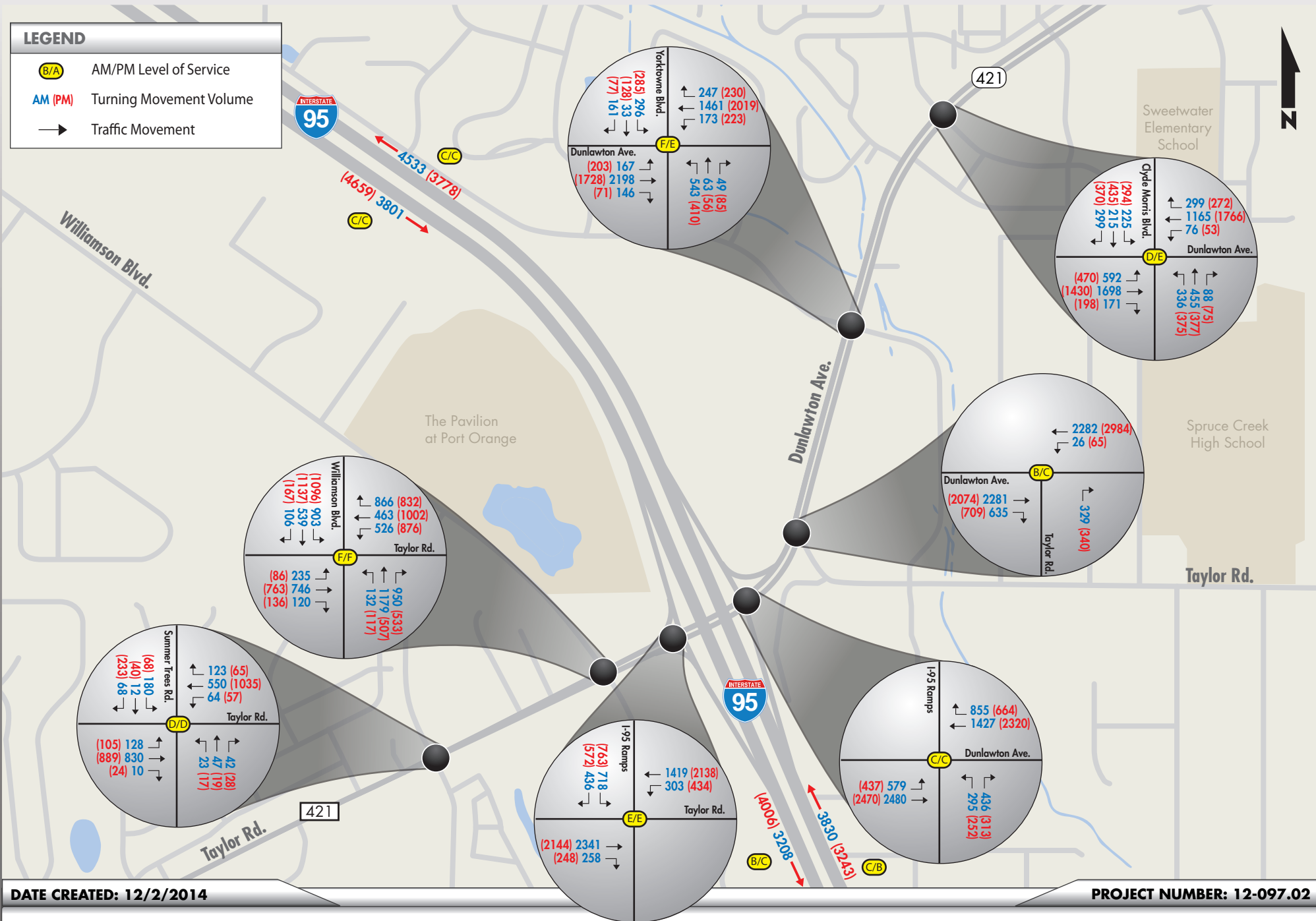
PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 5-2-2
Pioneer Trail - Year 2032 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)

LEGEND

- (B/A)** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement

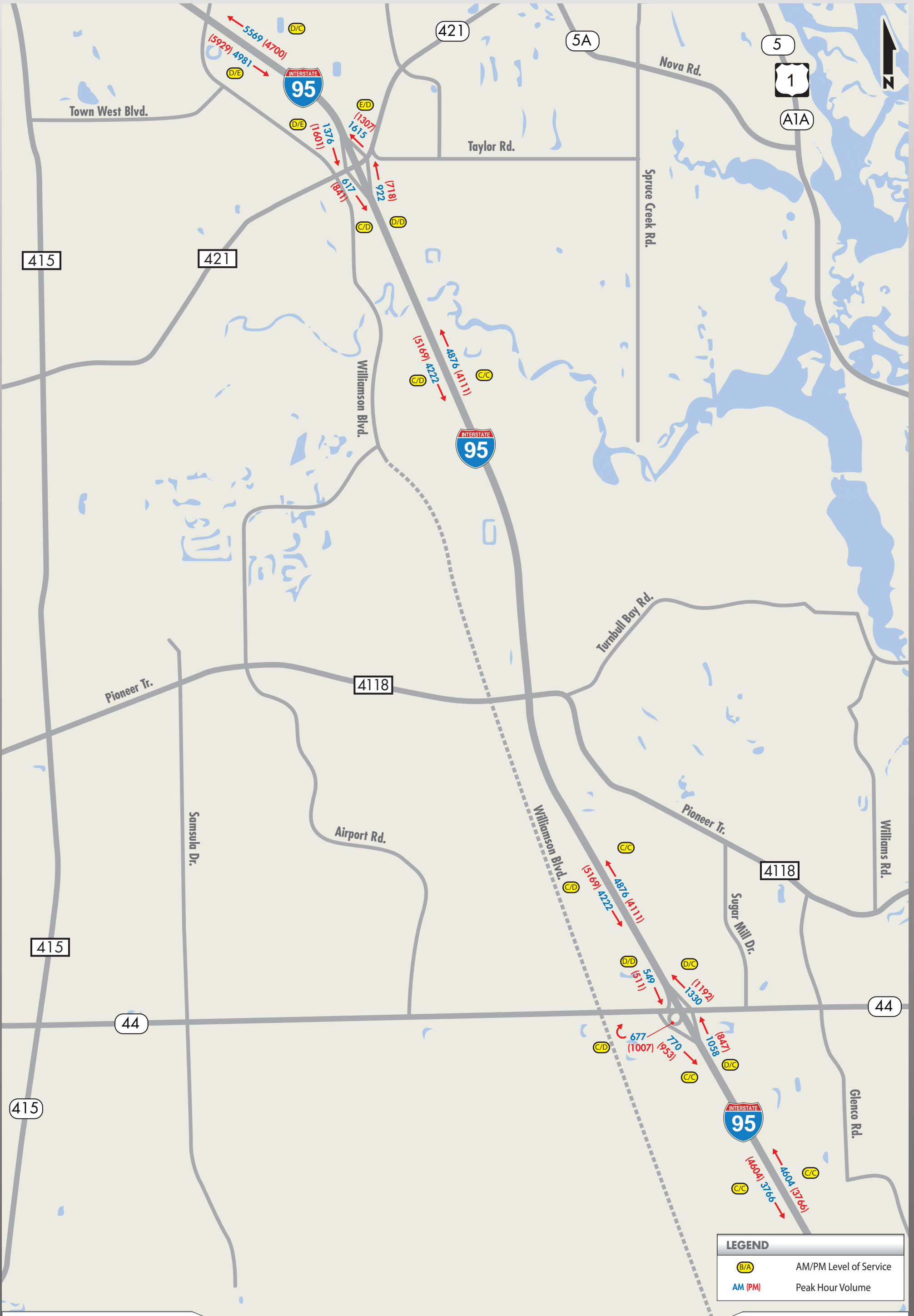


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I-95 at Pioneer Trail Interchange Volusia County

Figure 5-2-3
SR 421 - Year 2032 AM & PM Peak Hour Volumes and Level of Service (No Build Alternative)

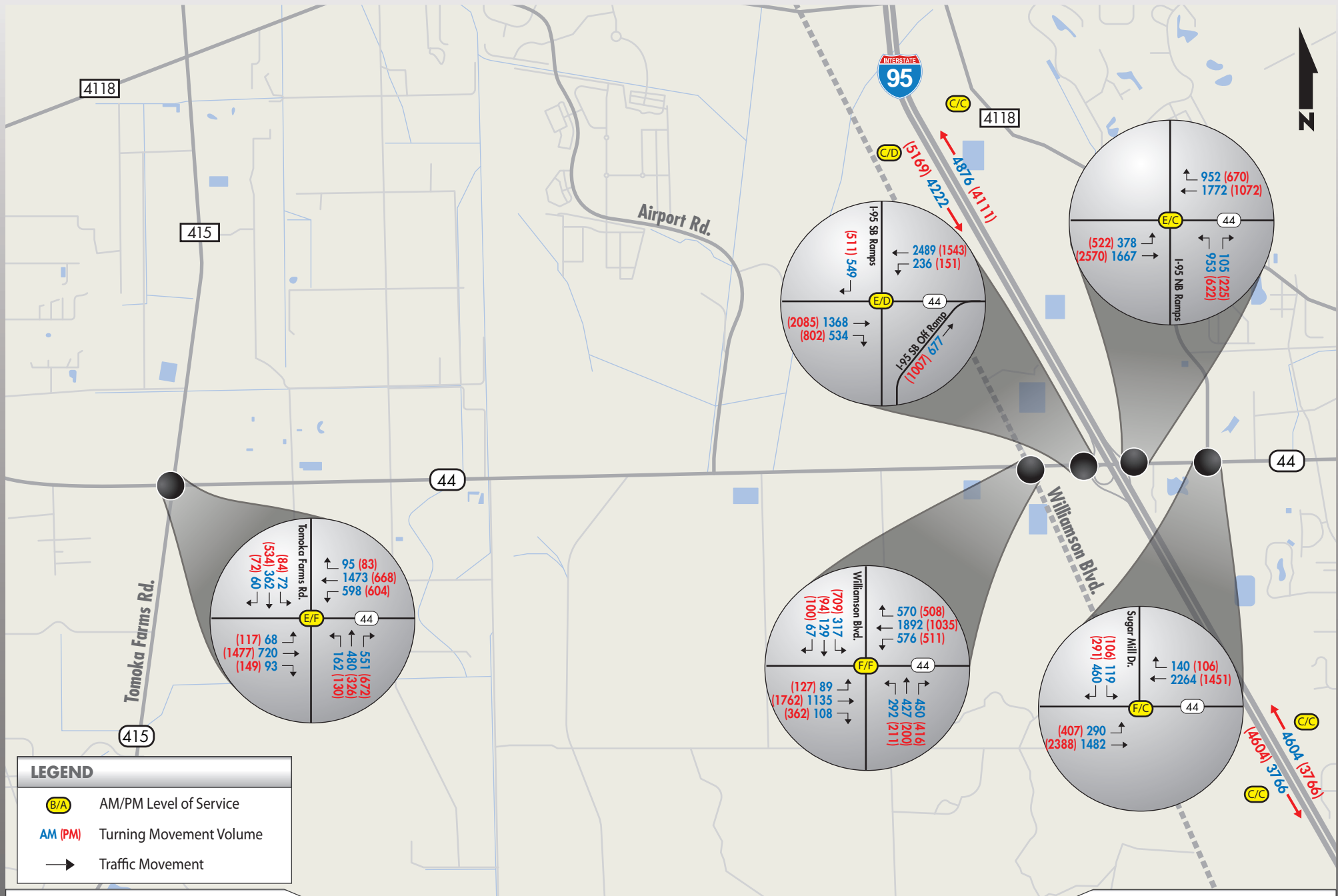


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**I-95 at Pioneer Trail Interchange
Volusia County**

Figure 5-3
Year 2042 Mainline AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)

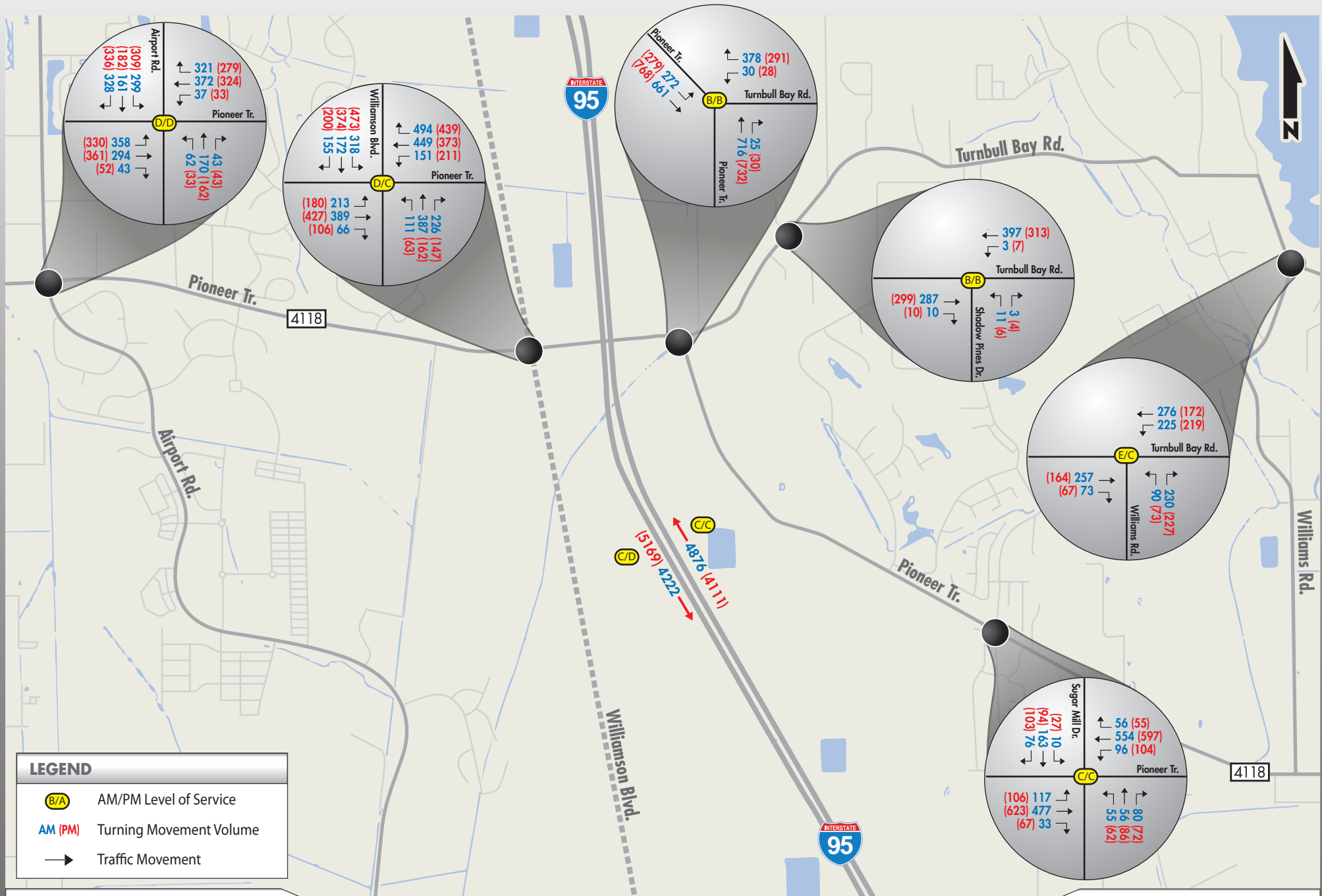


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I-95 at Pioneer Trail Interchange Volusia County

Figure 5-3-1
SR 44 - Year 2042 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)

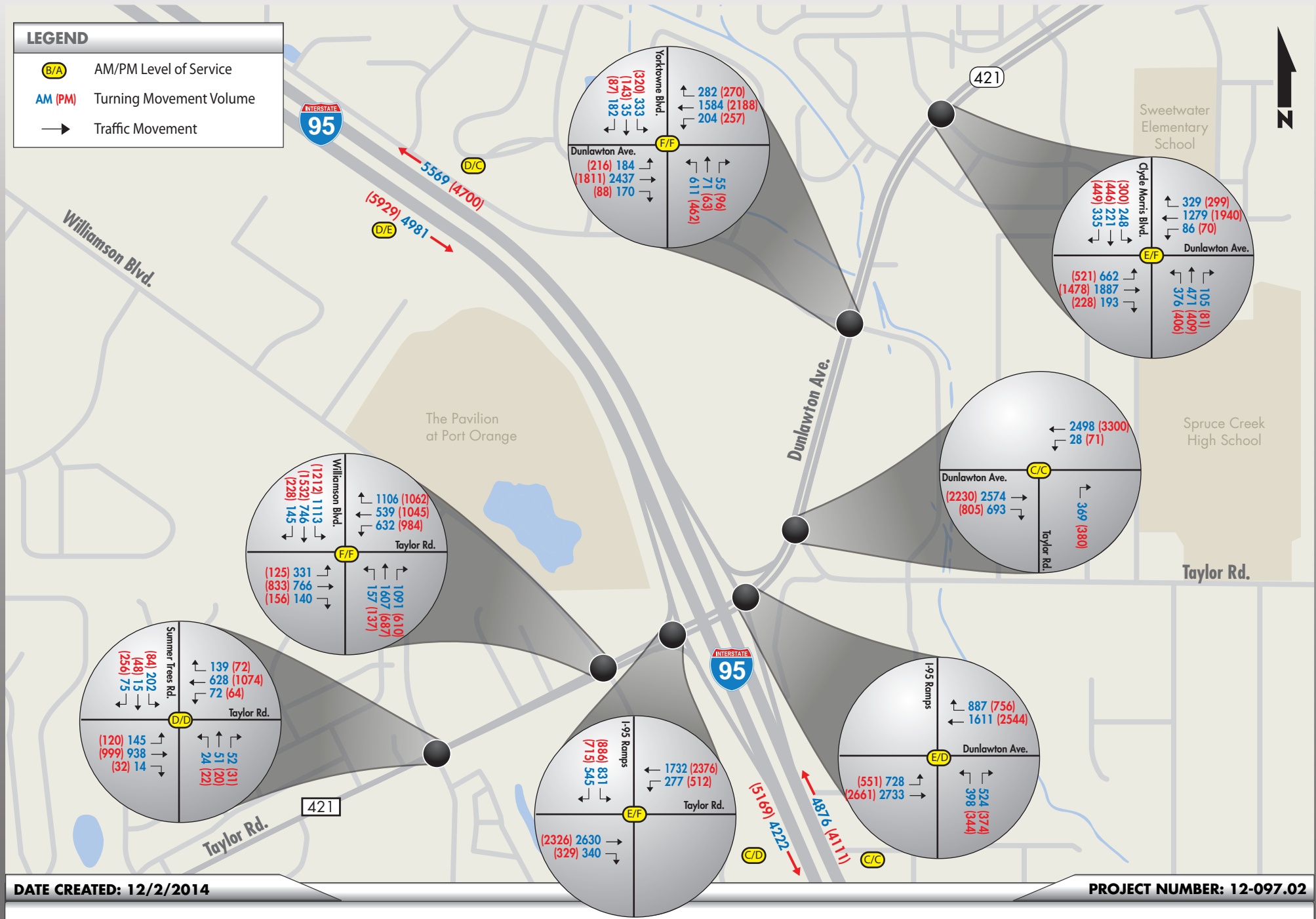


I-95 at Pioneer Trail Interchange Volusia County

Figure 5-3-2
Pioneer Trail - Year 2042 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)

LEGEND

- B/A** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement



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Figure 5-3-3
SR 421 - Year 2042 AM & PM Peak Hour Volumes and
Level of Service (No Build Alternative)

6.0 Build Alternative Operational Analysis

The Build Alternative analysis was conducted utilizing the existing geometry along with the planned, programmed, and committed improvements. The Build Alternative features a full interchange at I-95 and Pioneer Trail. Operational analysis was conducted for both I-95/Pioneer Trail interchange configurations. **Figures 6-1 through 6-3** depict the Build Alternative volumes and LOS for mainline, ramp junctions and study intersections.

6.1 Build Freeway Analysis

The level of service for the basic freeway sections was obtained utilizing HCM 2010 procedures and HCS software. **Tables 6-1 through 6-3** show the Build DDHV, density and LOS of freeway segments within the study area for the years 2022, 2032 and 2042.

The analysis indicates that the I-95 freeway segments operate at similar conditions when compared with the No Build Alternative which indicates that the proposed interchange does not have any adverse impacts to the mainline I-95 operations. The freeway segments operate at LOS B or better in the opening year (2022), LOS C or better in the interim year (2032), and LOS D or better in the design year (2042) conditions.

6.2 Build Merge/Diverge Analysis

The ramp merge/diverge analysis was conducted using HCM 2010 procedures and HCS 2010 software. **Tables 6-4 through 6-6** show the Build DDHV, density, and LOS of ramp merge/diverge movements within the study area for the years 2022, 2032 and 2042.

The ramp junctions are projected to operate at an acceptable LOS C or better during the opening year (2022) conditions and LOS D or better during the interim (2032) and design year (2042) conditions, with the exception of northbound on ramp and southbound off ramp junctions at SR 421 that are projected to operate at LOS E during a.m. and p.m. peak hour respectively. The ramp junctions operate at similar level of service conditions when compared with the No Build Alternative.

**TABLE 6-1
YEAR 2022 BUILD ALTERNATIVE - FREEWAY LOS**

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
I-95												
South of SR 44	2,574	12.5	B	2,106	10.2	A	2,106	10.2	A	2,574	12.5	B
SR 44 to Pioneer Trail	2,817	13.6	B	2,313	11.2	B	2,285	11.1	B	2,919	14.1	B
Pioneer Trail to SR 421	2,875	13.9	B	2,363	11.4	B	2,332	11.3	B	2,983	14.5	B
North of SR 421	3,559	17.4	B	2,809	13.6	B	2,782	13.5	B	3,504	17.2	B

**TABLE 6-2
YEAR 2032 BUILD ALTERNATIVE - FREEWAY LOS**

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
I-95												
South of SR 44	3,564	17.5	B	2,916	14.1	B	2,916	14.1	B	3,564	17.5	B
SR 44 to Pioneer Trail	3,851	19.1	C	3,160	15.4	B	3,212	15.6	B	3,941	19.6	C
Pioneer Trail to SR 421	3,977	19.8	C	3,272	15.9	B	3,305	16.1	B	4,078	20.4	C
North of SR 421	4,598	23.8	C	3,718	18.3	C	3,753	18.5	C	4,607	23.9	C

**TABLE 6-3
YEAR 2042 BUILD ALTERNATIVE - FREEWAY LOS**

Freeway Segment	AM Peak Northbound			AM Off Peak Southbound			PM Off Peak Northbound			PM Peak Southbound		
	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS	Volume	Density (pc\mi\ln)	LOS
I-95												
South of SR 44	4,604	23.9	C	3,766	18.6	C	3,766	18.6	C	4,604	23.9	C
SR 44 to Pioneer Trail	4,915	26.2	D	4,067	20.4	C	4,137	20.8	C	5,025	27.1	D
Pioneer Trail to SR 421	5,109	27.7	D	4,233	21.4	C	4,279	21.7	C	5,247	28.9	D
North of SR 421	5,703	33.2	D	4,719	24.7	C	4,761	25.0	C	5,834	34.7	D

**TABLE 6-4
YEAR 2022 BUILD ALTERNATIVE - RAMP JUNCTION LOS**

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	437	19.7	B	379	16.9	B
	SB On Ramp	Merge	373	13.4	B	426	15.9	B
	SB Off Ramp (loop)	Diverge	434	16.5	B	610	20.3	C
	NB On Ramp	Merge	680	20.0	C	558	17.0	B
	SB Off Ramp	Diverge	146	17.6	B	161	21.1	C
I-95 at SR 421	NB Off Ramp	Diverge	446	21.1	C	352	17.8	B
	SB On Ramp	Merge	364	16.8	B	434	20.0	C
	NB On Ramp	Merge	1,130	25.2	C	802	20.4	C
	SB Off Ramp	Diverge	810	22.1	C	955	26.1	C
BUILD ALTERNATIVE 1 - DIAMOND INTERCHANGE								
I-95 at Pioneer Trail	NB Off Ramp	Diverge	185	18.2	B	156	15.1	B
	SB On Ramp	Merge	157	10.2	B	178	13.4	B
	NB On Ramp	Merge	243	13.4	B	203	10.5	B
	SB Off Ramp	Diverge	207	15.6	B	242	19.2	B
BUILD ALTERNATIVE 2 - PAR-CLO INTERCHANGE								
I-95 at Pioneer Trail	NB Off Ramp	Diverge	185	18.2	B	156	15.1	B
	SB On Ramp	Merge	157	10.2	B	178	13.4	B
	SB Off Ramp (loop)	Diverge	141	15.1	B	169	18.7	B
	NB On Ramp	Merge	243	13.4	B	203	10.5	B
	SB Off Ramp	Diverge	66	15.4	B	73	18.9	B

**TABLE 6-5
YEAR 2032 BUILD ALTERNATIVE - RAMP JUNCTION LOS**

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	564	25.4	C	477	21.8	C
	SB On Ramp	Merge	480	17.8	B	558	21.3	C
	SB Off Ramp (loop)	Diverge	454	20.7	C	673	25.4	C
	NB On Ramp	Merge	851	25.7	C	773	22.3	C
	SB Off Ramp	Diverge	270	22.6	C	262	26.7	C
I-95 at SR 421	NB Off Ramp	Diverge	545	27.1	C	433	23.5	C
	SB On Ramp	Merge	445	21.5	C	529	25.3	C
	NB On Ramp	Merge	1,166	30.5	D	881	25.4	C
	SB Off Ramp	Diverge	891	27.1	C	1,058	31.7	D
BUILD ALTERNATIVE 1 - DIAMOND INTERCHANGE								
I-95 at Pioneer Trail	NB Off Ramp	Diverge	399	24.1	C	336	20.7	C
	SB On Ramp	Merge	339	15.1	B	383	19.3	B
	NB On Ramp	Merge	525	19.9	B	429	16.1	B
	SB Off Ramp	Diverge	451	21.2	C	520	25.5	C
BUILD ALTERNATIVE 2 - PAR-CLO INTERCHANGE								
I-95 at Pioneer Trail	NB Off Ramp	Diverge	399	24.1	C	336	20.7	C
	SB On Ramp	Merge	339	15.1	B	383	19.3	B
	SB Off Ramp (loop)	Diverge	308	20.2	C	366	24.4	C
	NB On Ramp	Merge	525	19.9	B	429	16.1	B
	SB Off Ramp	Diverge	143	20.6	C	154	24.9	C

**TABLE 6-6
YEAR 2042 BUILD ALTERNATIVE - RAMP JUNCTION LOS**

Interchange	Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
			Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
I-95 at SR 44	NB Off Ramp	Diverge	710	30.8	D	570	26.4	C
	SB On Ramp	Merge	577	22.4	C	681	26.9	C
	SB Off Ramp (loop)	Diverge	465	24.8	C	702	30.0	D
	NB On Ramp	Merge	1,021	31.5	D	941	27.4	C
	SB Off Ramp	Diverge	413	27.6	C	400	32.1	D
I-95 at SR 421	NB Off Ramp	Diverge	634	32.6	D	504	28.5	D
	SB On Ramp	Merge	518	26.5	C	609	31.8	D
	NB On Ramp	Merge	1,228	36.2	E	986	30.8	D
	SB Off Ramp	Diverge	1,004	32.1	D	1,196	37.2	E
BUILD ALTERNATIVE 1 - DIAMOND INTERCHANGE								
I-95 at Pioneer Trail	NB Off Ramp	Diverge	603	29.6	D	509	25.7	C
	SB On Ramp	Merge	513	20.3	C	570	25.5	C
	NB On Ramp	Merge	797	26.6	C	651	21.8	C
	SB Off Ramp	Diverge	679	26.5	C	792	31.4	D
BUILD ALTERNATIVE 2 - PAR-CLO INTERCHANGE								
I-95 at Pioneer Trail	NB Off Ramp	Diverge	603	29.6	D	509	25.7	C
	SB On Ramp	Merge	513	20.3	C	570	25.2	C
	SB Off Ramp (loop)	Diverge	449	25.0	C	556	29.9	D
	NB On Ramp	Merge	797	26.6	C	651	21.8	C
	SB Off Ramp	Diverge	230	25.7	C	236	30.5	D

6.3 Build Intersection Operational Analysis

Intersection operational analysis for the Build Alternatives was performed for the opening, interim and design years during the morning and evening peak hour conditions. The results of the intersection analysis are summarized in **Tables 6-7 through 6-12** and the Synchro outputs were provided in **Appendix I**.

I-95/SR 421 Interchange Area

The ramp terminal intersections at the I-95/SR 421 interchange are projected to operate at an acceptable LOS C or better during the opening year conditions. The SR 421 at I-95 southbound ramps intersection is anticipated to operate at LOS E or better during interim year and at LOS E during design year conditions. The SR 421 and I-95 northbound ramps intersection operates at LOS B during interim year and at LOS C during design year conditions.

The study intersections along the SR 421 corridor projected to fall below acceptable LOS conditions along with the ramp terminal intersections are as follows:

- Williamson Boulevard (2022);
- Clyde Morris Boulevard (2032); and
- Yorktowne Boulevard (2032).

I-95/SR 44 Interchange Area

The SR 44 at I-95 northbound ramps intersection operates at LOS B during the interim year and at LOS C during the design year. The SR 44 at I-95 southbound ramps intersection operates at LOS C during the opening year, LOS F during interim year under stop control operation, and LOS D or better during the design year under signal control. The study intersections along SR 44 corridor that are projected to fall below acceptable LOS in the Build condition are as follows:

- Tomoka Farms Road (2042); and
- Williamson Boulevard (2042).

Table 6-7: Design Year 2042 - Delay Reduction at Existing Interchange Termini

Intersection	No Build Alternative		Build Alternative		% Difference
	Delay	LOS	Delay	LOS	
SR 421/I-95 SB Ramps	85.5	F	72.8	E	-14.9%
SR 421/I-95 NB Ramps	57.6	E	24.7	C	-57.1%
SR 44/I-95 NB Ramps	71.8	E	28.2	C	-60.7%
SR 44/I-95 SB Ramps	65.7	E	41.9	D	-36.2%

Table 6-8: Design Year 2042 - Delay Reduction at Critical Intersections

Intersection	No Build Alternative		Build Alternative		% Difference	Distance to Interchange
	Delay	LOS	Delay	LOS		
SR 421/Williamson Boulevard	222.2	F	198.3	F	-10.8%	650 feet
SR 421/Taylor Road	34.2	C	22.4	C	-34.5%	650 feet
SR 421/Summer Trees Road	53.9	D	50.9	D	-5.6%	2,200 feet
SR 421/Yorktowne Boulevard	132.5	F	121.9	F	-8.0%	2,300 feet
SR 44/Williamson Boulevard	136.4	F	109.3	F	-19.9%	1,900 feet
SR 44/Sugar Mill Drive	86.7	F	39.1	D	-54.9%	2,300 feet

I-95/Pioneer Trail Interchange

The I-95 and Pioneer Trail interchange terminal intersections are projected to operate at acceptable LOS C or better in both interchange alternative configurations. A detailed summary of intersection operational analyses is provided in **Table 6-9 through 6-14**.

Diamond Interchange: The ramp terminal intersection analysis indicates that both ramp terminal intersections are projected to operate at acceptable LOS B or better during the opening year and interim year conditions and LOS C during the design year conditions.

Par-Clo Interchange: The ramp terminal intersection analysis indicates that both ramp terminal intersections are projected to operate at an acceptable LOS B or better during the opening year and interim year conditions and LOS C or better during the design year conditions.

Both build interchange configurations exhibit similar LOS operating characteristics. When delay levels are compared, the Par-Clo Interchange alternative shows a delay reduction of 1.0 second at the northbound ramp intersection during the a.m. peak period and a slight decrease in delay by 0.1 second during the p.m. peak period when compared with the Diamond interchange. The southbound ramps intersection operating under stop control in the Par-Clo interchange alternative exhibits lower delays during both the a.m. and p.m. peak periods.

**TABLE 6-9
YEAR 2022 BUILD ALTERNATIVE - INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
SR 44/Tomoka Farms Road	Signalized	25.2	C	32.8	C
SR 44/Williamson Boulevard	Signalized	12.9	B	16.1	B
SR 44/I-95 NB Ramps	Signalized	9.5	A	11.4	B
SR 44/Sugar Mill Drive	Signalized	14.6	B	7.4	A
SR 421/Summer Trees Road	Signalized	32.4	C	28.4	C
SR 421/Williamson Boulevard	Signalized	60.2	E	59.8	E
SR 421/I-95 SB Ramps	Signalized	31.8	C	31.8	C
SR 421/I-95 NB Ramps	Signalized	15.3	B	11.6	B
SR 421/Taylor Road	Signalized	8.1	A	8.6	A
SR 421/Yorktowne Boulevard	Signalized	43.0	D	41.1	D
SR 421/Clyde Morris Boulevard	Signalized	43.7	D	50.6	D
Pioneer Trail/Airport Road	Signalized	27.9	C	27.8	C
Pioneer Trail/Williamson Boulevard	Signalized	13.5	B	15.6	B
Pioneer Trail/Sugar Mill Drive	Signalized	19.1	B	20.1	C
SR 44/I-95 SB Ramps	Stop	11.3/21.2	B/C	15.1/16.4	C/C
Pioneer Trail/Turnbull Bay Road	Stop	8.4/14.4	A/B	8.4/13.4	A/B
Turnbull Bay Road/Shadow Pines Drive	Stop	7.6/10.6	A/B	7.6/10.2	A/B
Turnbull Bay Road/Williams Road	Stop	7.8/11.5	A/B	7.7/11.1	A/B

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

**TABLE 6-10
I-95 AT PIONEER TRAIL INTERCHANGE - BUILD YEAR 2022 INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
DIAMOND INTERCHANGE					
Pioneer Trail/I-95 NB Ramps	Signalized	11.4	B	10.6	B
Pioneer Trail/I-95 SB Ramps	Signalized	9.3	A	10.3	B
PAR-CLO INTERCHANGE					
Pioneer Trail/I-95 NB Ramps	Signalized	11.0	B	10.5	B
Pioneer Trail/I-95 SB Ramps	Stop	8.3/10.0	A/B	8.5/10.0	A/B

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

**TABLE 6-11
YEAR 2032 BUILD ALTERNATIVE - INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
SR 44/Tomoka Farms Road	Signalized	36.0	D	50.0	D
SR 44/Williamson Boulevard	Signalized	36.4	D	42.2	D
SR 44/I-95 NB Ramps	Signalized	14.9	B	12.7	B
SR 44/Sugar Mill Drive	Signalized	19.8	B	10.0	A
SR 421/Summer Trees Road	Signalized	35.1	D	43.3	D
SR 421/Williamson Boulevard	Signalized	112.7	F	107.6	F
SR 421/I-95 SB Ramps	Signalized	56.9	E	54.0	D
SR 421/I-95 NB Ramps	Signalized	18.8	B	15.5	B
SR 421/Taylor Road	Signalized	17.3	B	13.7	B
SR 421/Yorktowne Boulevard	Signalized	93.6	F	69.4	E
SR 421/Clyde Morris Boulevard	Signalized	52.4	D	76.6	E
Pioneer Trail/Airport Road	Signalized	37.4	D	36.3	D
Pioneer Trail/Williamson Boulevard	Signalized	17.1	B	21.3	C
Pioneer Trail/Sugar Mill Drive	Signalized	23.9	C	21.6	C
SR 44/I-95 SB Ramps	Stop	14.1/77.7	B/F	18.1/23.5	C/C
Pioneer Trail/Turnbull Bay Road	Stop	9.7/40.2	A/E	9.9/26.5	A/D
Turnbull Bay Road/Shadow Pines Drive	Stop	7.7/12.3	A/B	7.7/11.2	A/B
Turnbull Bay Road/Williams Road	Stop	8.2/18.0	A/C	7.9/13.3	A/B

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

**TABLE 6-12
I-95 AT PIONEER TRAIL INTERCHANGE - BUILD YEAR 2032 INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
DIAMOND INTERCHANGE					
Pioneer Trail/I-95 NB Ramps	Signalized	17.5	B	13.6	B
Pioneer Trail/I-95 SB Ramps	Signalized	13.3	B	14.4	B
PAR-CLO INTERCHANGE					
Pioneer Trail/I-95 NB Ramps	Signalized	16.8	B	13.8	B
Pioneer Trail/I-95 SB Ramps	Stop	9.7/12.3	A/B	10.5/12.3	B/B

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

**TABLE 6-13
YEAR 2042 BUILD ALTERNATIVE - INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
SR 44/Tomoka Farms Road	Signalized	56.4	E	118.2	F
SR 44/Williamson Boulevard	Signalized	82.8	F	109.3	F
SR 44/I-95 NB Ramps	Signalized	28.2	C	20.9	C
SR 44/Sugar Mill Drive	Signalized	39.1	D	20.7	C
SR 421/Summer Trees Road	Signalized	41.2	D	50.9	D
SR 421/Williamson Boulevard	Signalized	198.3	F	174.8	F
SR 421/I-95 SB Ramps	Signalized	58.2	E	72.8	E
SR 421/I-95 NB Ramps	Signalized	20.5	C	24.7	C
SR 421/Taylor Road	Signalized	22.4	C	22.2	C
SR 421/Yorktowne Boulevard	Signalized	121.9	F	71.9	E
SR 421/Clyde Morris Boulevard	Signalized	57.3	E	81.2	F
Pioneer Trail/Airport Road	Signalized	47.7	D	44.9	D
Pioneer Trail/Williamson Boulevard	Signalized	30.6	C	31.7	C
Pioneer Trail/Sugar Mill Drive	Signalized	30.9	C	43.0	D
SR 44/I-95 SB Ramps	Signalized	34.9	C	41.9	D
Pioneer Trail/Turnbull Bay Road	Signalized	15.8	B	17.3	B
Turnbull Bay Road/Shadow Pines Drive	Stop	7.9/14.1	A/B	8.0/13.0	A/B
Turnbull Bay Road/Williams Road	Stop	8.8/64.2	A/F	8.2/18.4	A/C

Notes

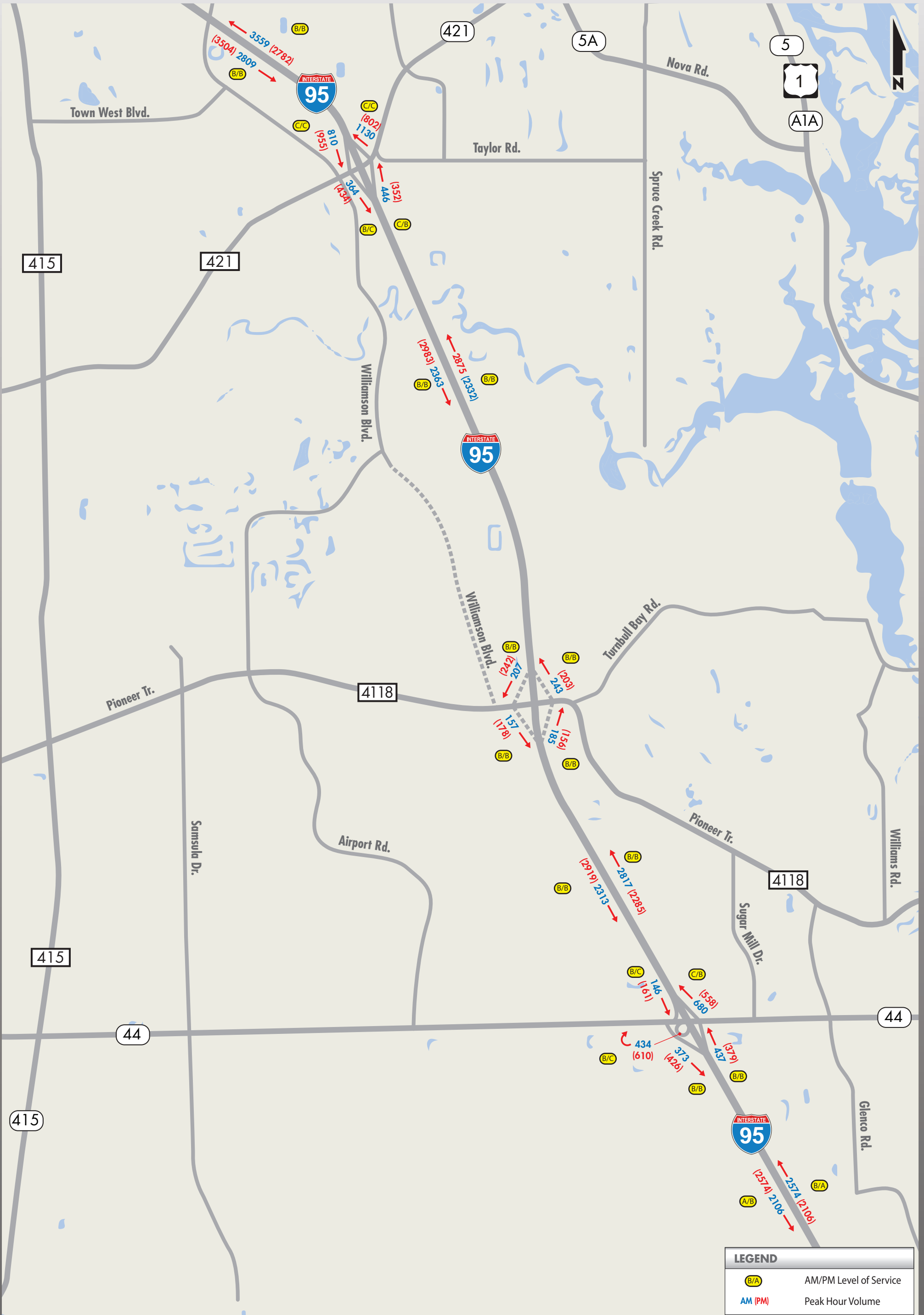
1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
4. For Unsignalized intersections Delay and LOS reported are for major street left movement/minor street approach
5. Delay reported is in Secs/Veh

**TABLE 6-14
I-95 AT PIONEER TRAIL INTERCHANGE - BUILD YEAR 2042 INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	AM		PM	
		Delay	LOS	Delay	LOS
DIAMOND INTERCHANGE					
Pioneer Trail/I-95 NB Ramps	Signalized	27.2	C	21.2	C
Pioneer Trail/I-95 SB Ramps	Signalized	18.9	B	30.4	C
PAR-CLO INTERCHANGE					
Pioneer Trail/I-95 NB Ramps	Signalized	26.2	C	21.1	C
Pioneer Trail/I-95 SB Ramps	Stop	13.3/16.8	B/C	15.2/18.1	C/C

Notes

1. Synchro 8.0 based outputs are presented in this table for signalized intersections
2. Synchro based HCM 2010 outputs are presented in this table for unsignalized intersections
3. Overall intersection Delay & LOS results are reported for signalized intersection
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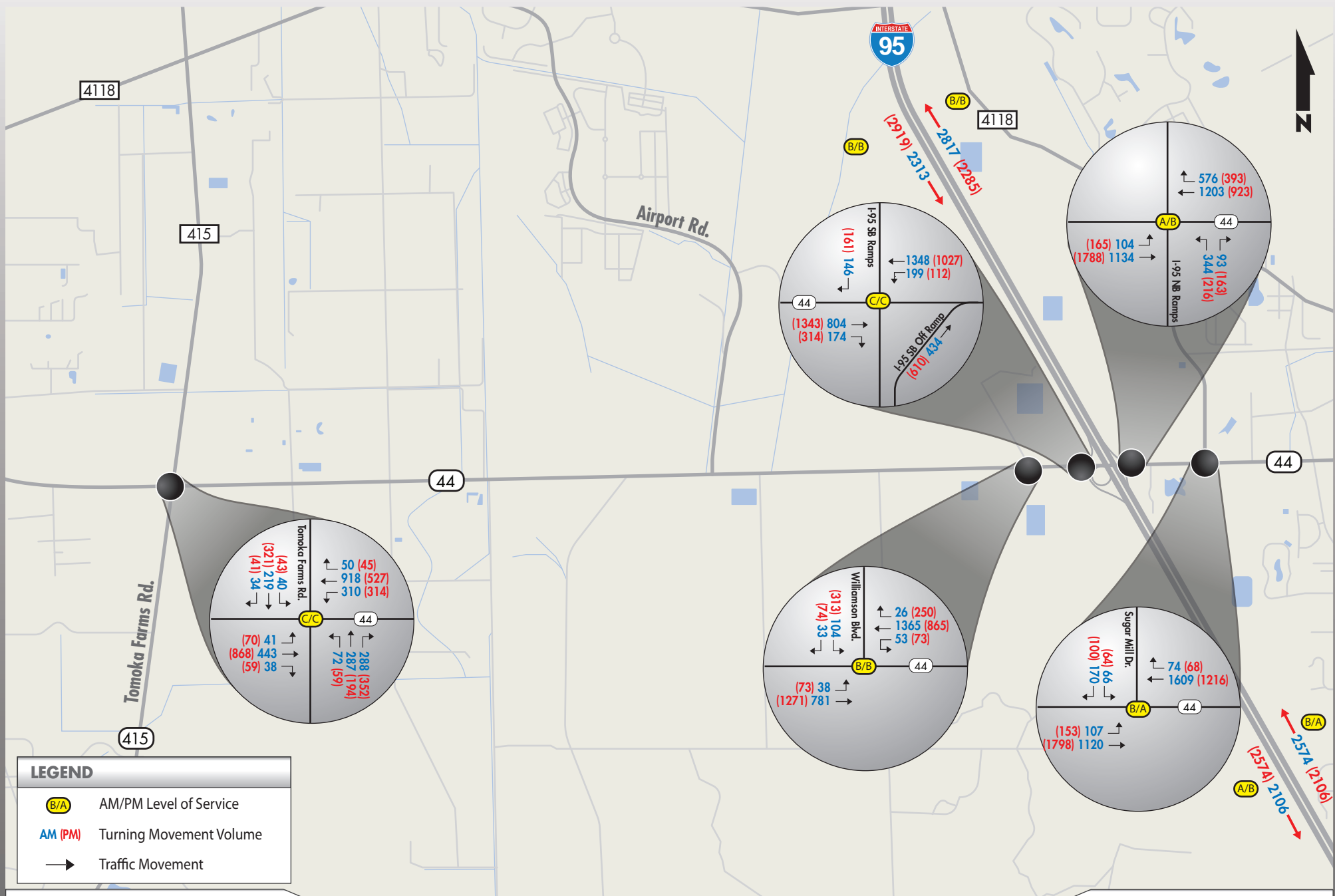


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I-95 at Pioneer Trail Interchange Volusia County

Figure 6-1
Year 2022 Mainline AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

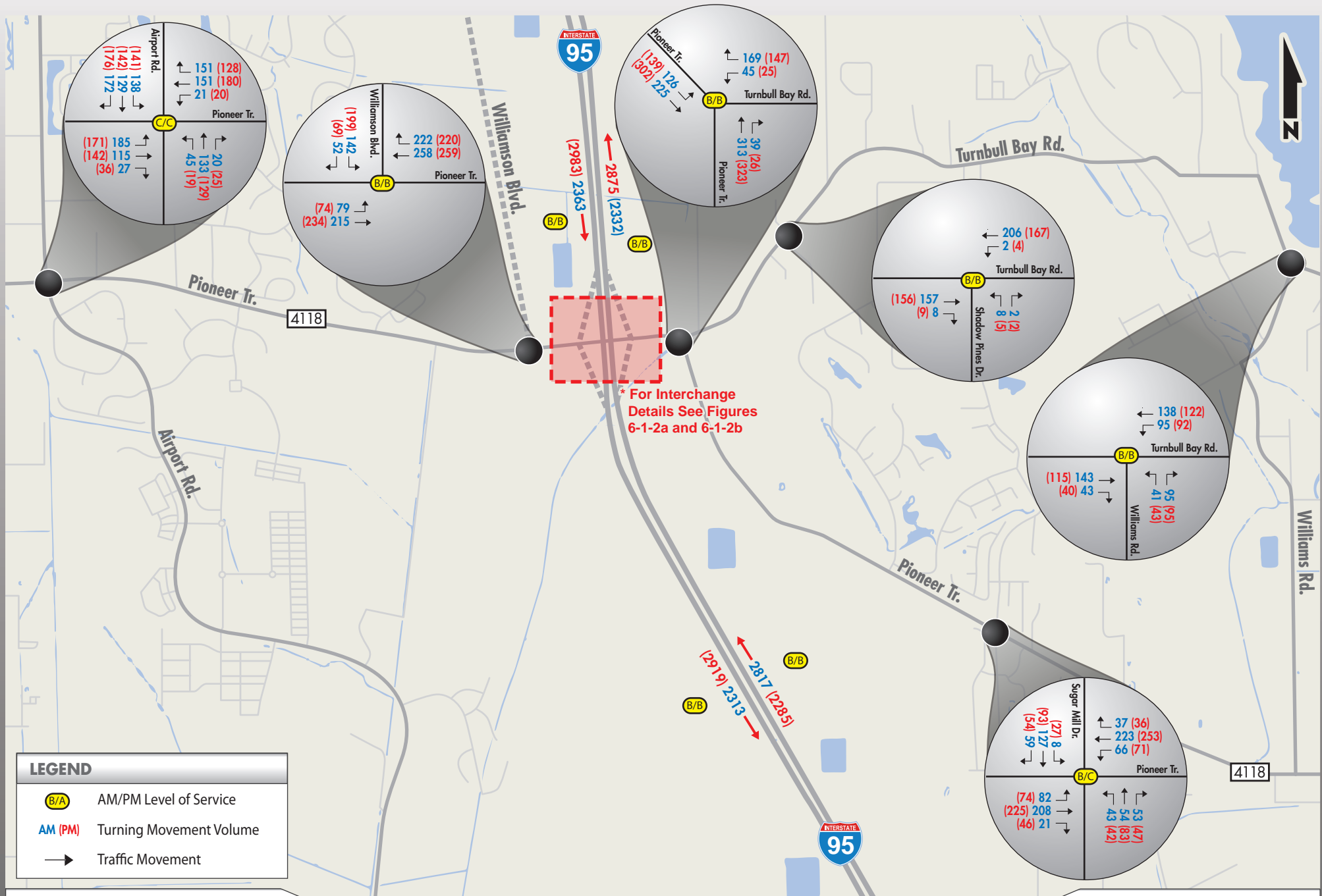


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I-95 at Pioneer Trail Interchange Volusia County

Figure 6-1-1
SR 44 - Year 2022 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

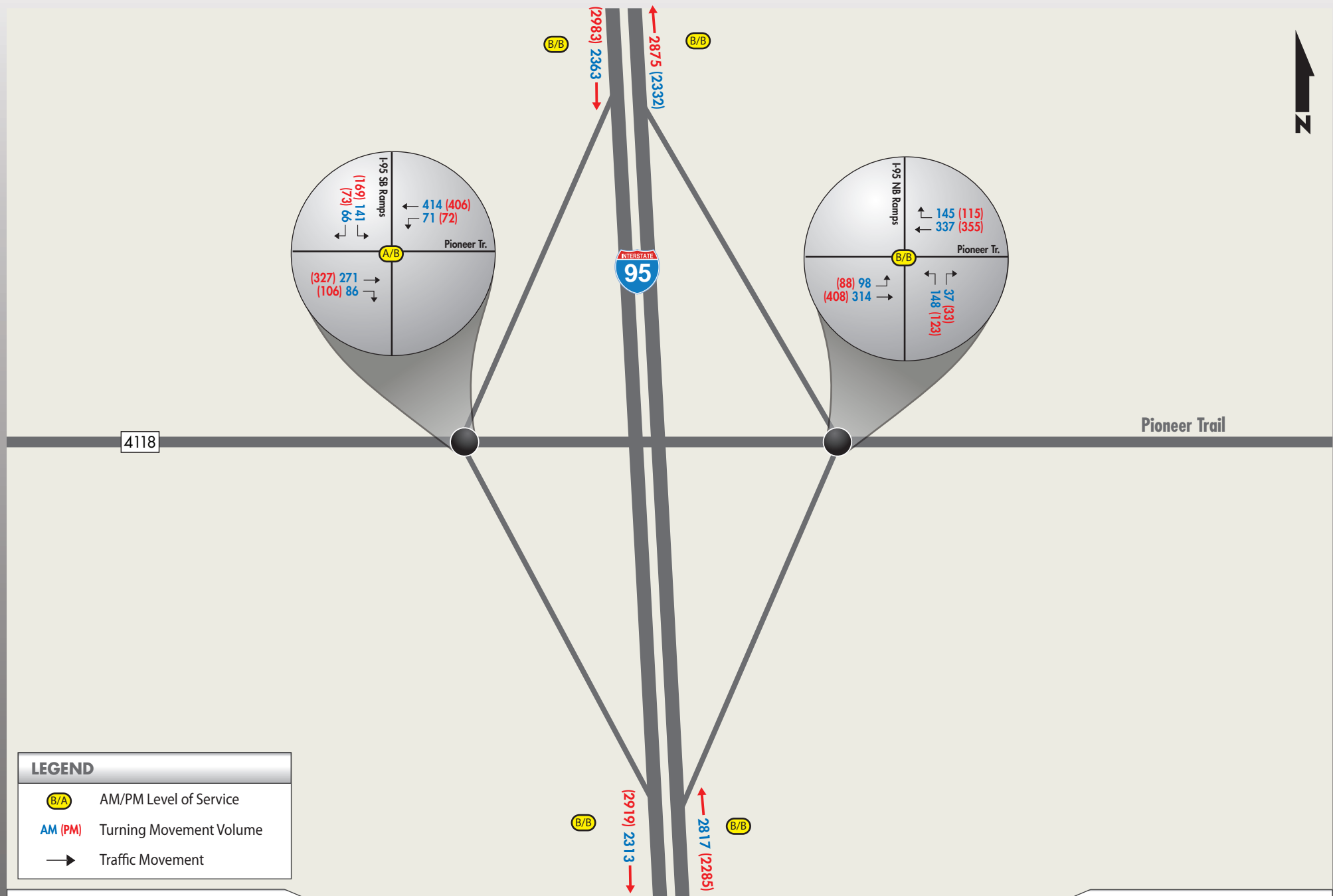


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I-95 at Pioneer Trail Interchange Volusia County

Figure 6-1-2
Pioneer Trail - Year 2022 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

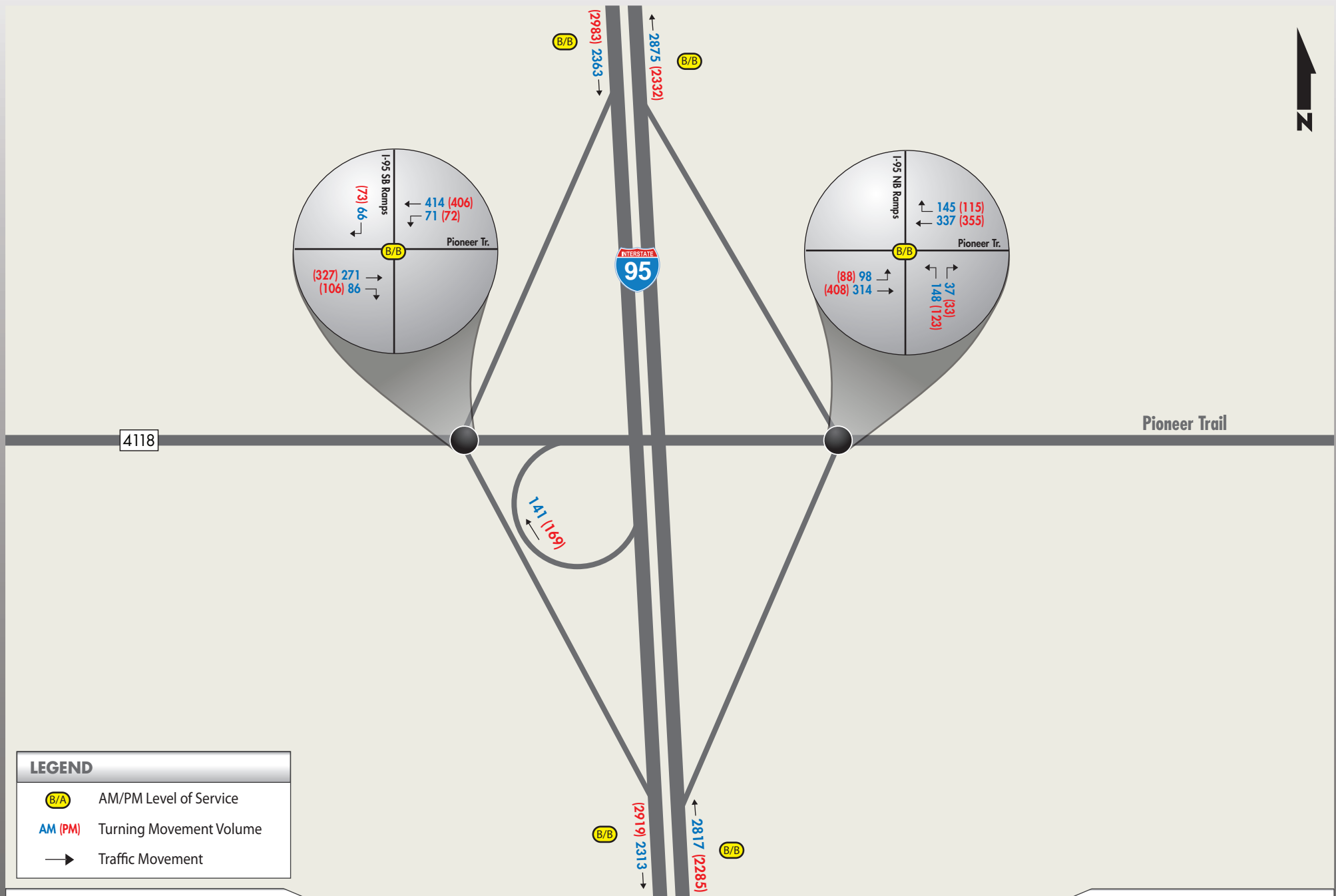


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I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-1-2a
Year 2022 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative 1 - Diamond Interchange)



DATE CREATED: 12/2/2014

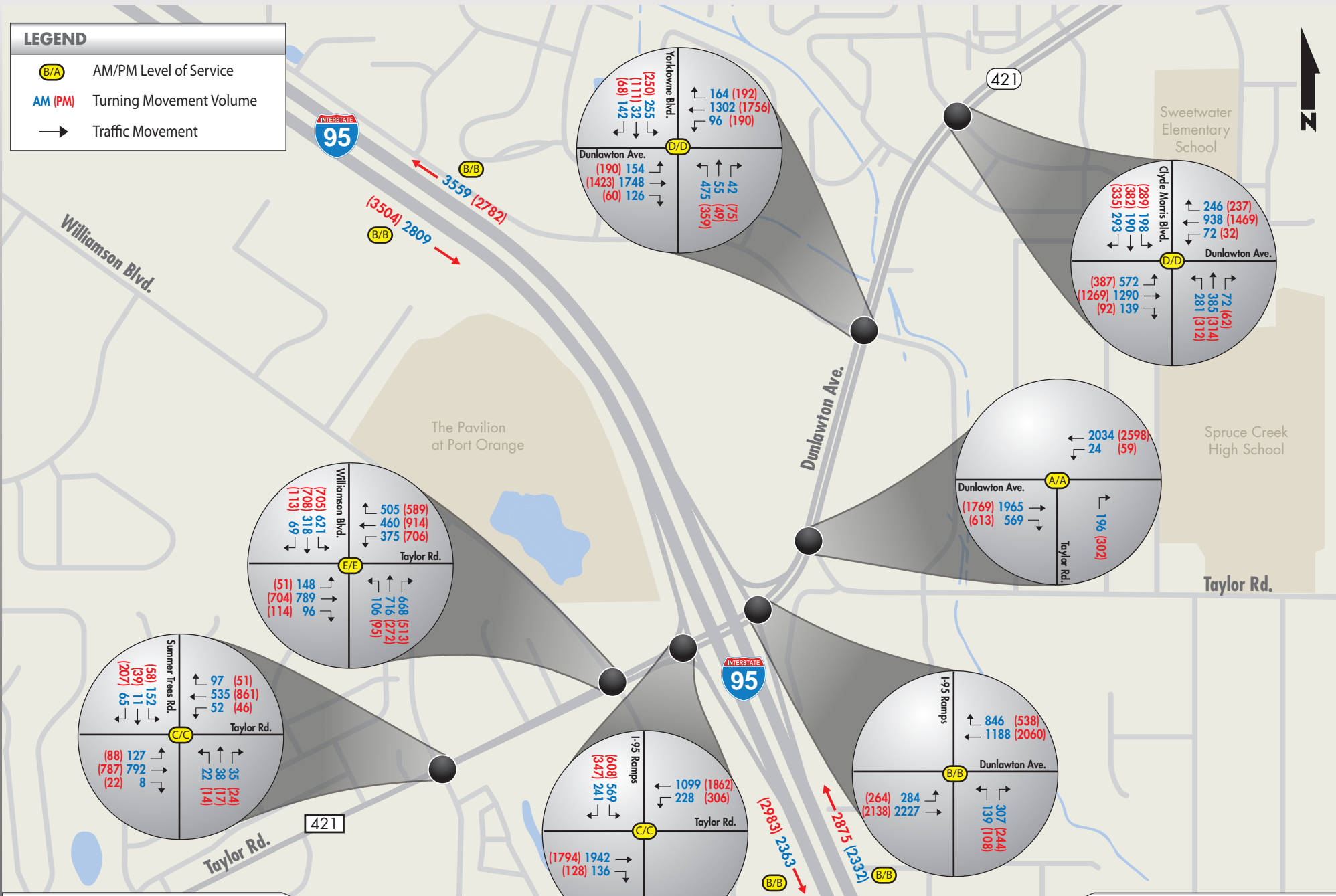
PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-1-2b
Pioneer Trail - Year 2022 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative 2 - Par - Clo Interchange)

LEGEND

- B/A** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement

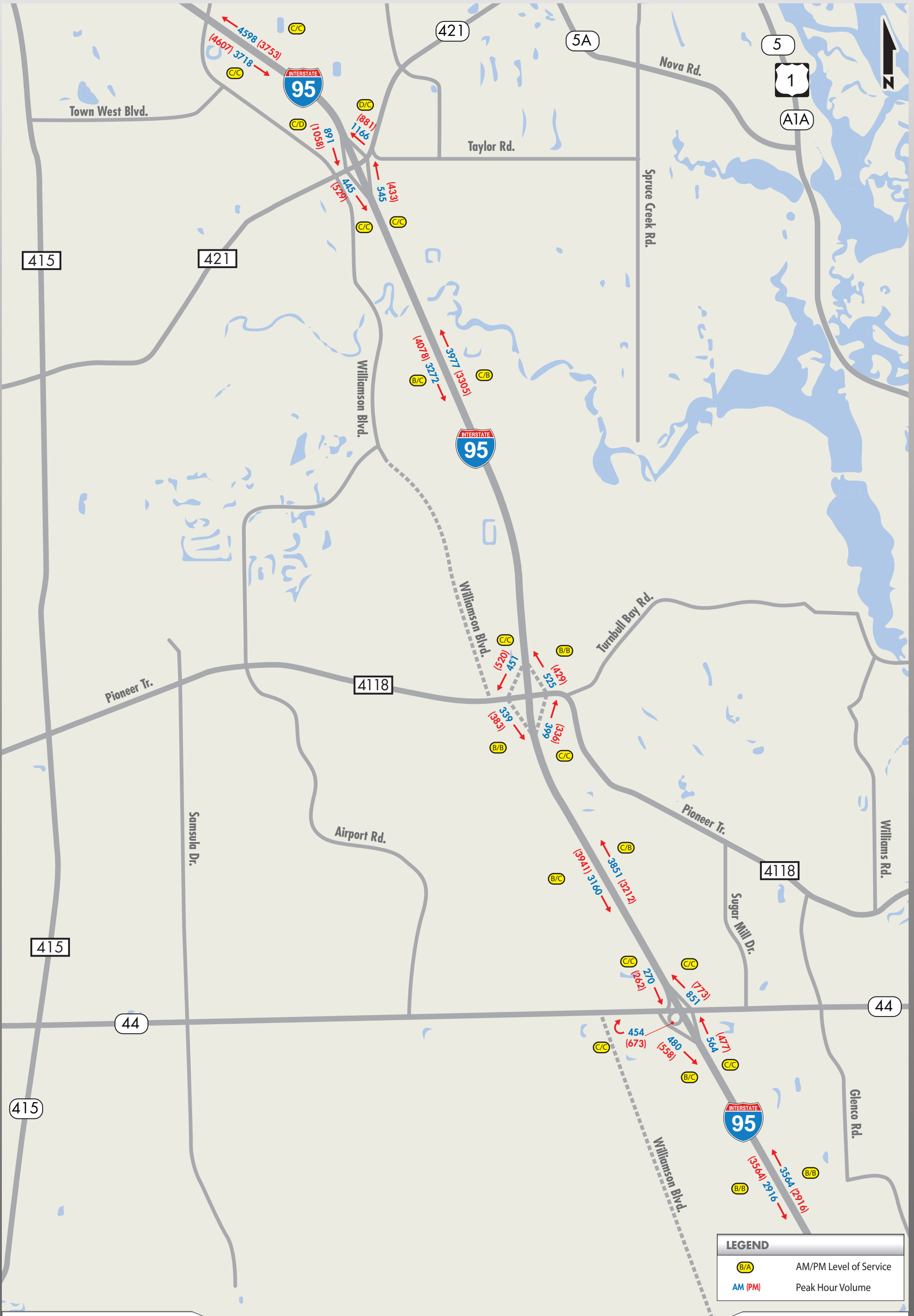


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-1-3
SR 421 - Year 2022 AM & PM Peak Hour Volumes and Level of Service (Build Alternative)

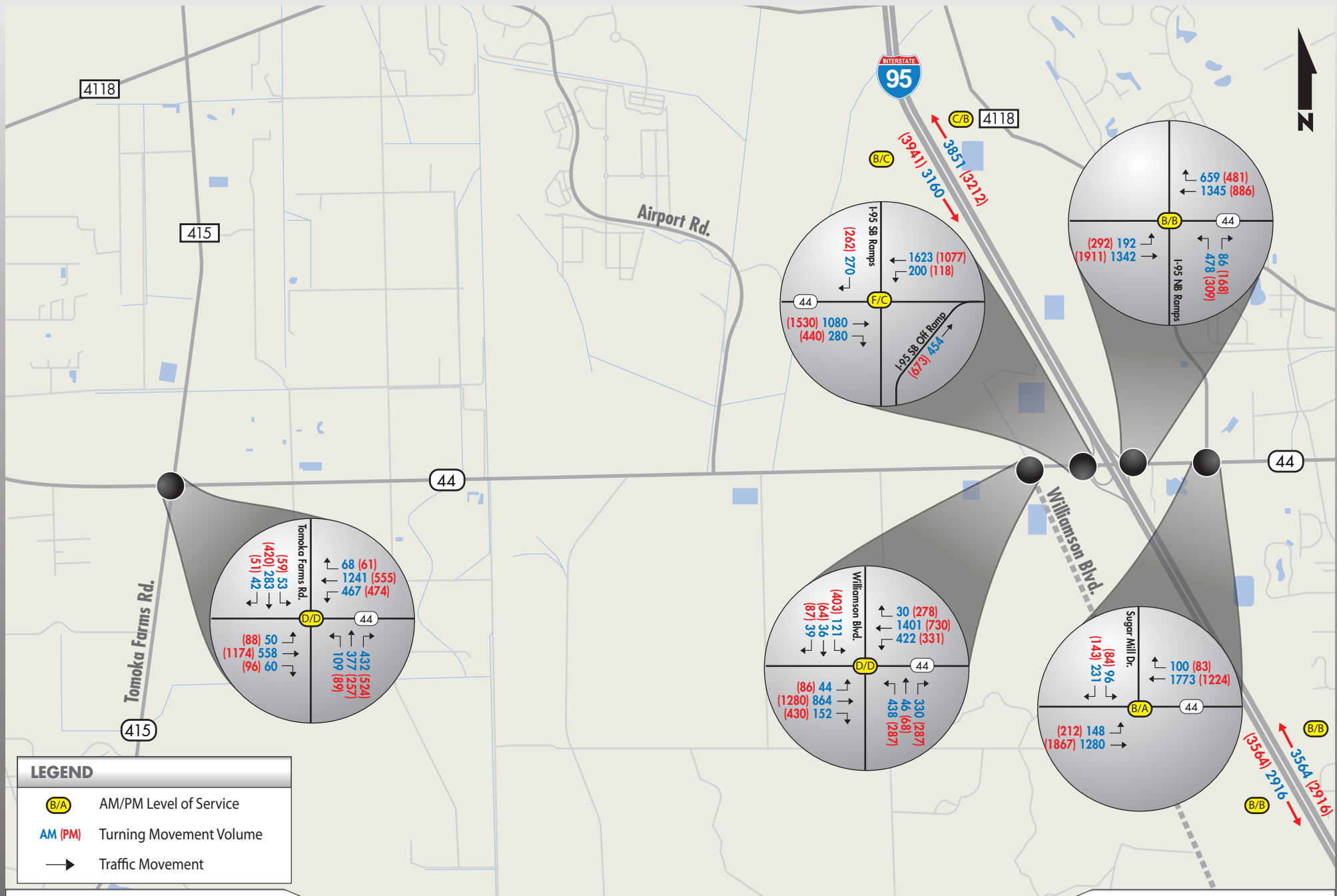


DATE CREATED: 1/28/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-2
Year 2032 Mainline AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

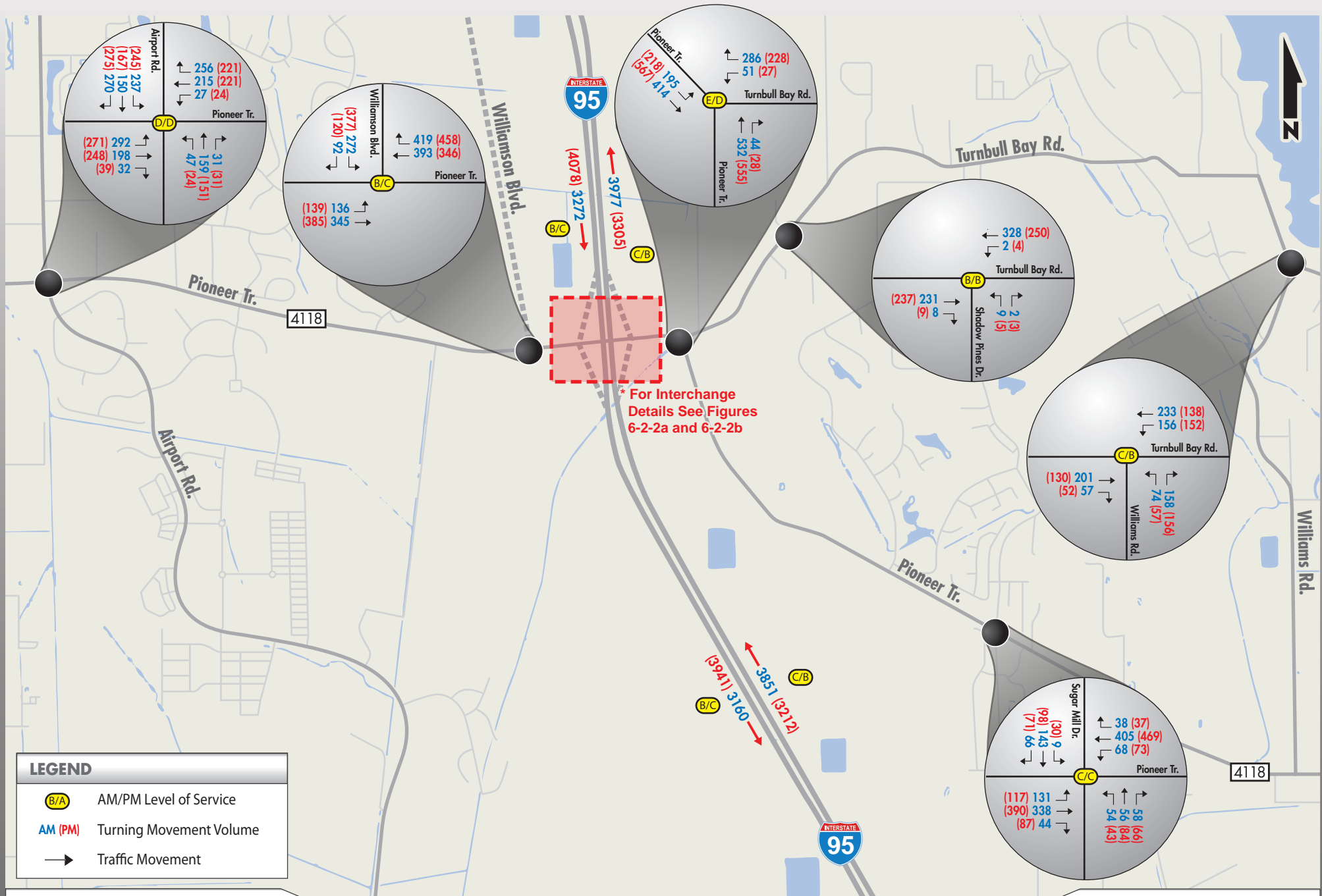


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-2-1
SR 44 - Year 2032 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

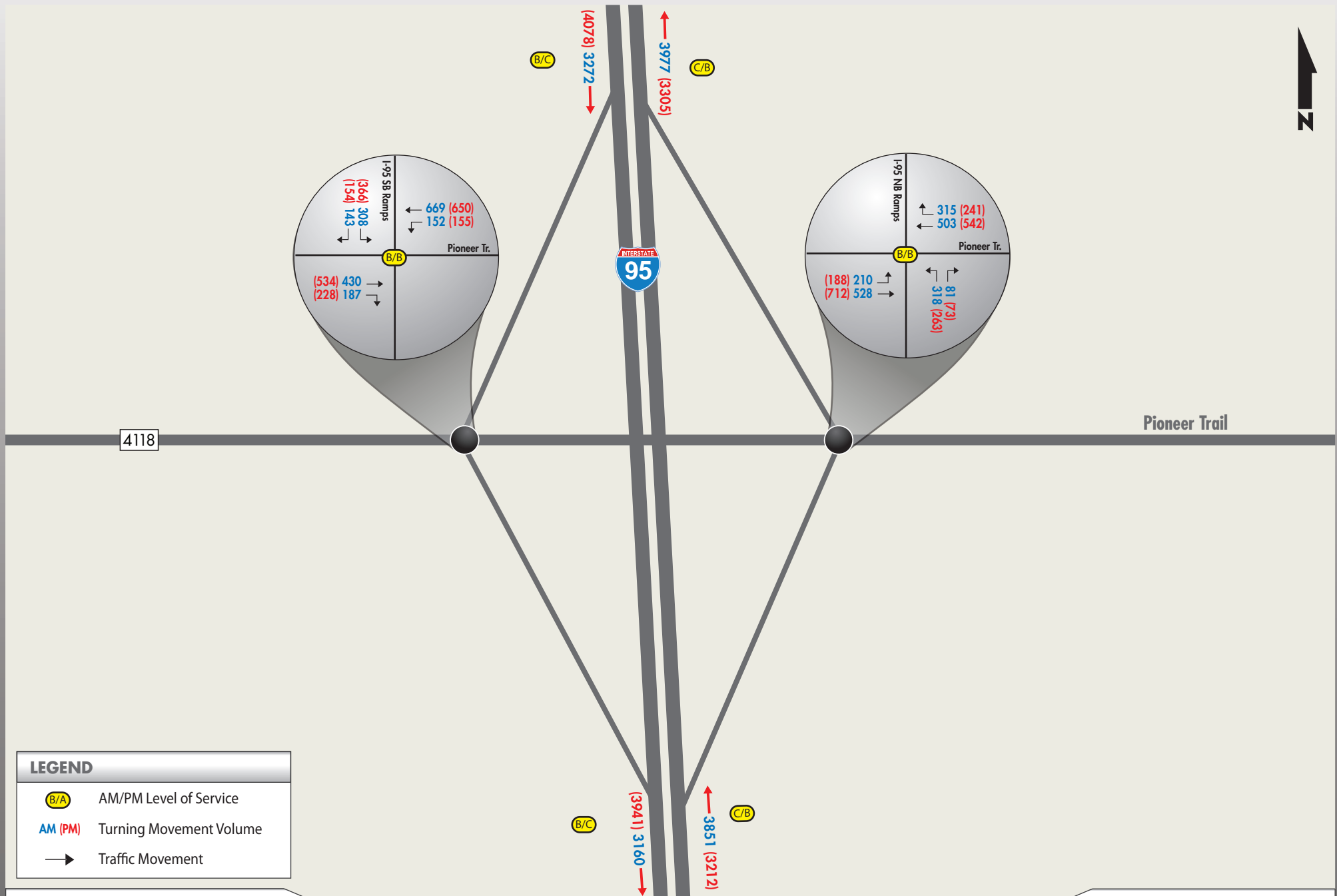


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-2-2
Pioneer Trail - Year 2032 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

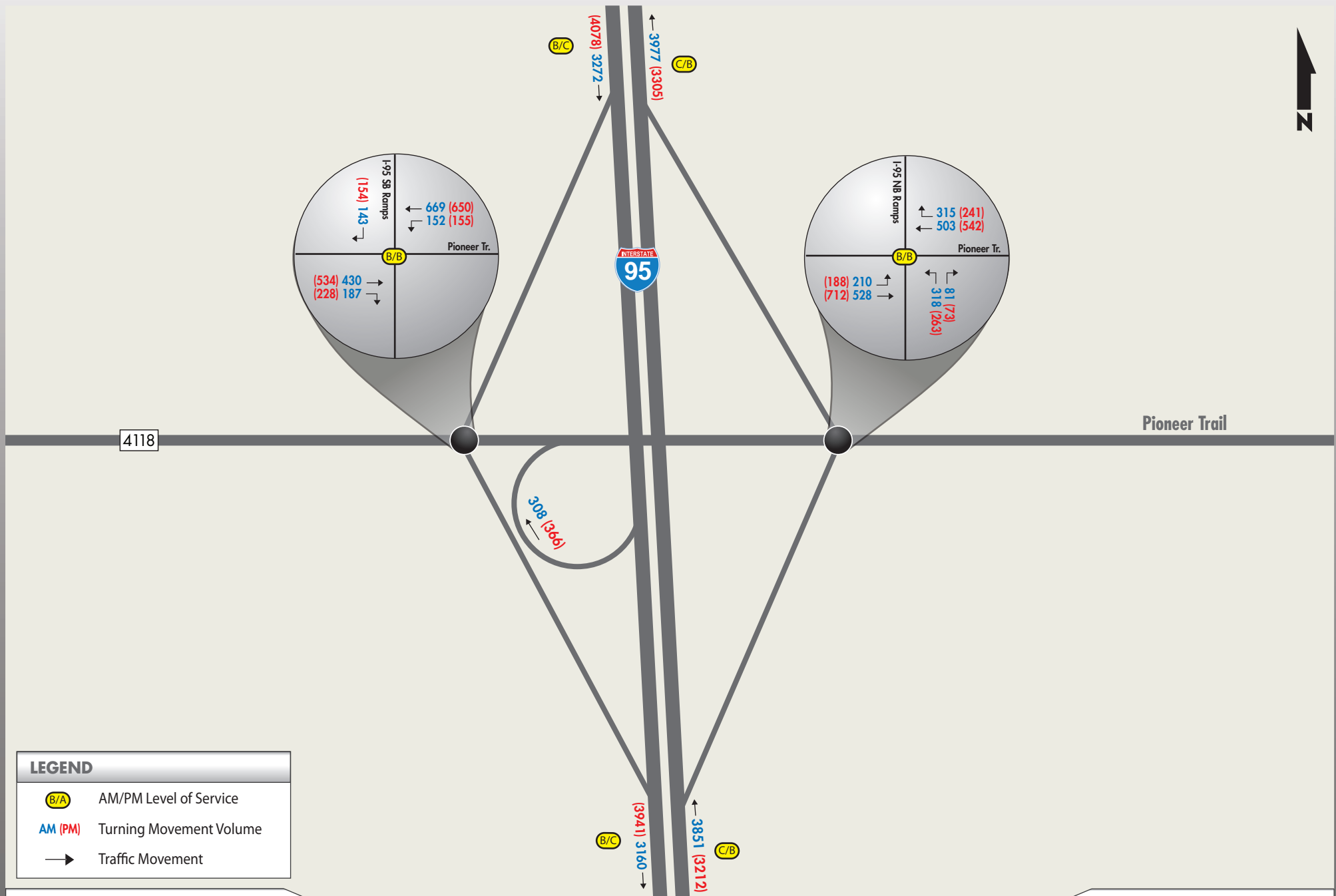


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-2-2a
Pioneer Trail - Year 2032 AM & PM Peak Hour Volumes
and Level of Service (Build Alternative 1 - Diamond Interchange)



DATE CREATED: 12/2/2014

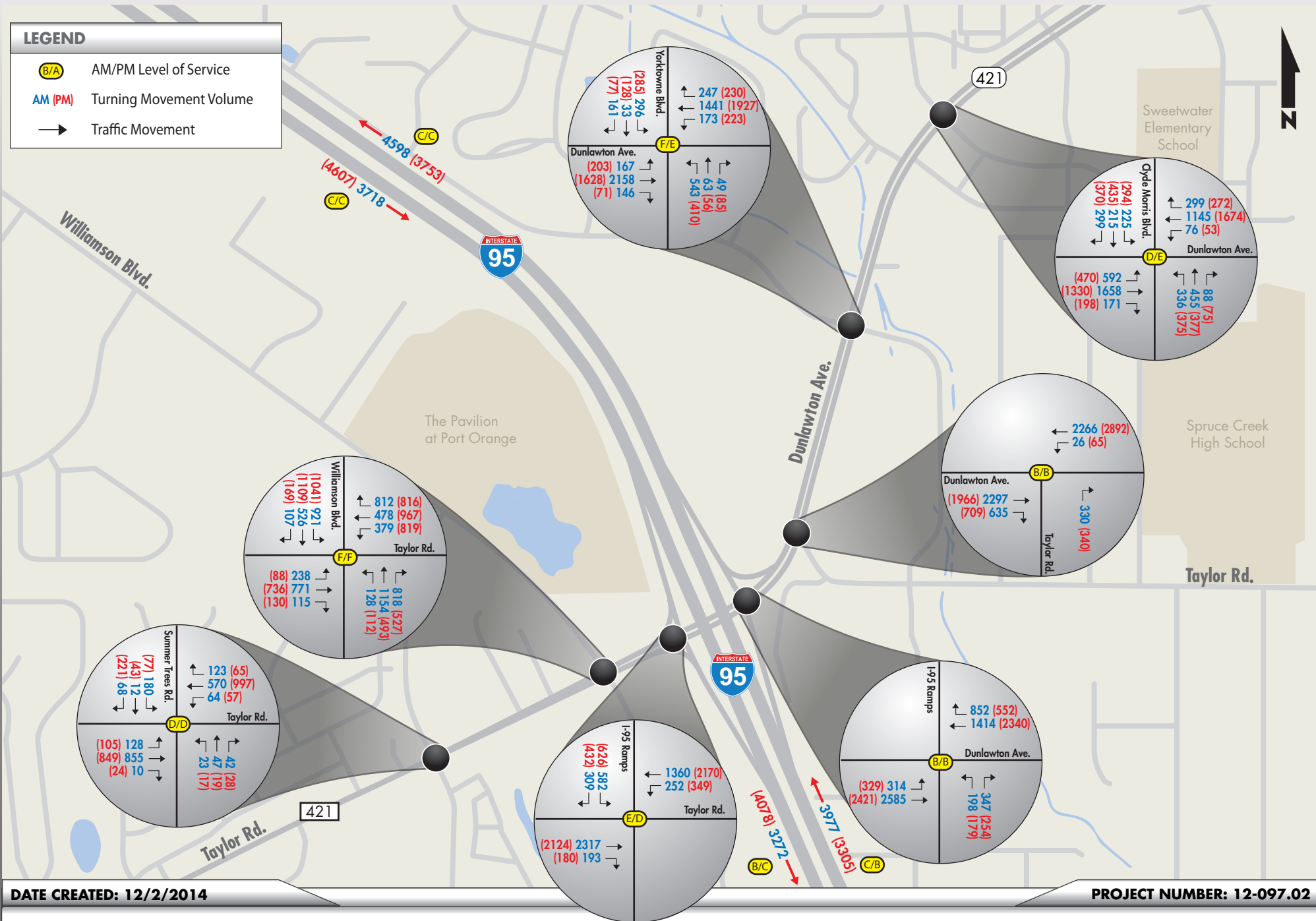
PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-2-2b
Pioneer Trail - Year 2032 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative 2 - Par - Clo Interchange)

LEGEND

- B/A** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement

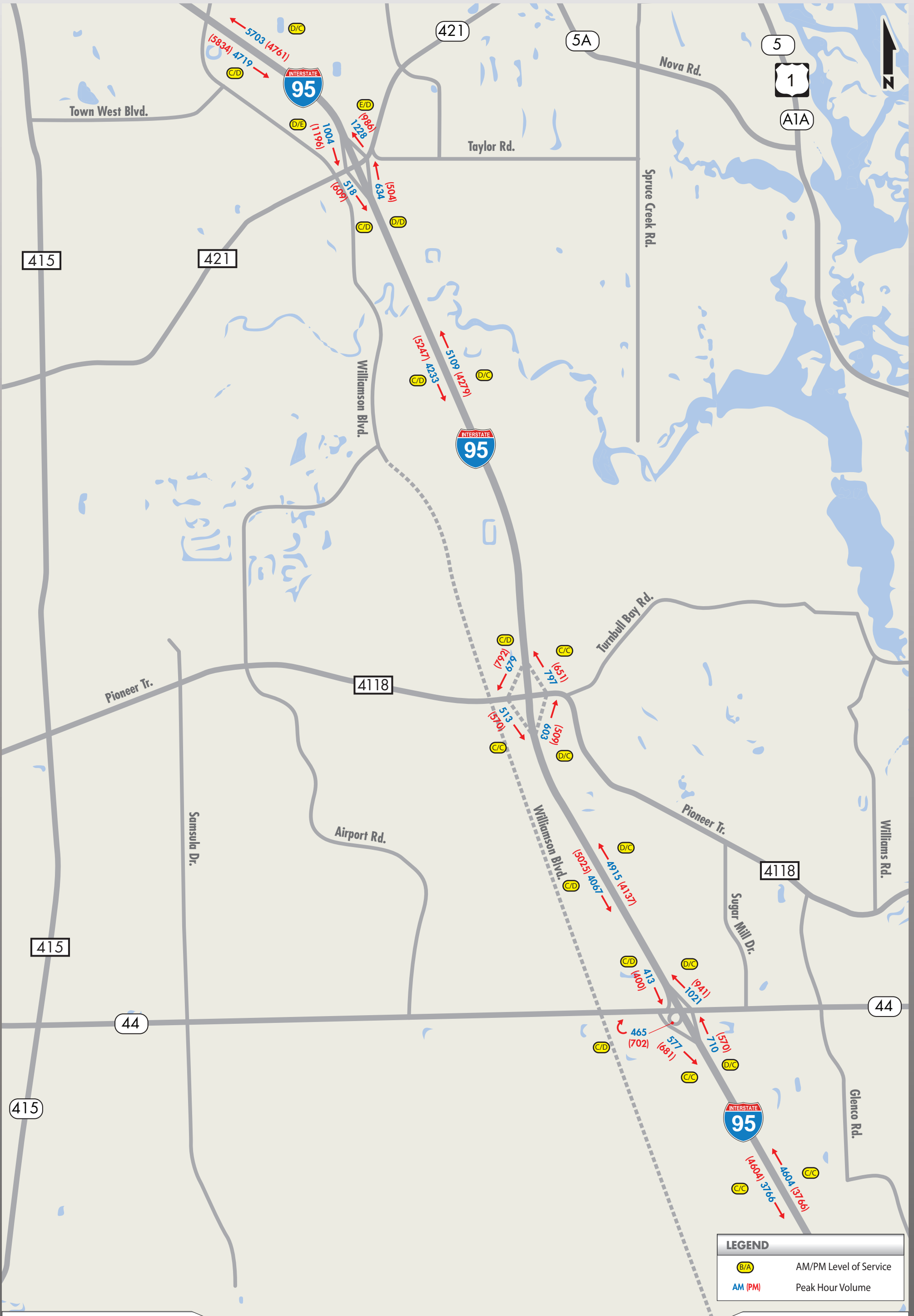


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-2-3
SR 421 - Year 2032 AM & PM Peak Hour Volumes and Level of Service (Build Alternative)

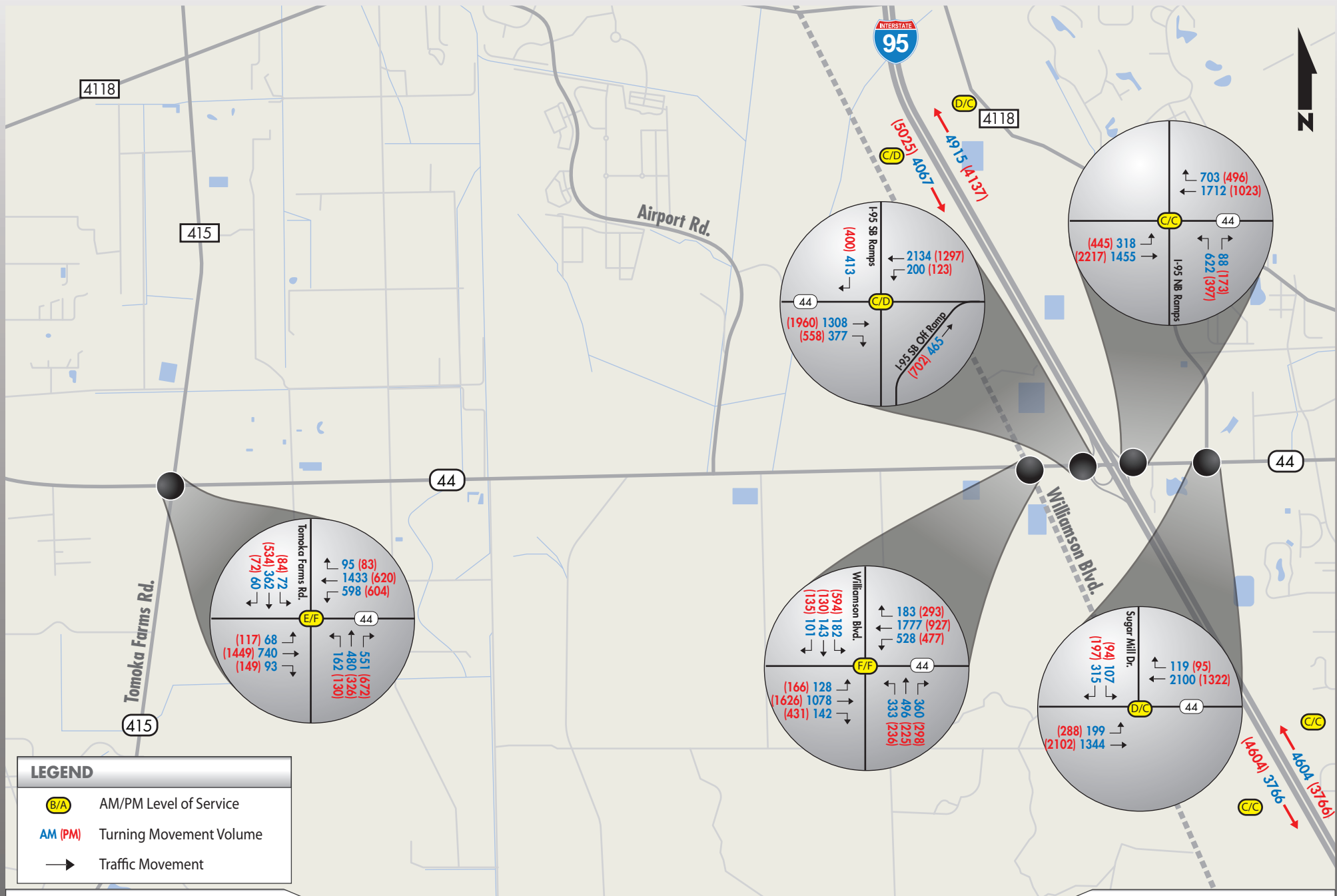


DATE CREATED: 1/28/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-3
Year 2042 Mainline AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

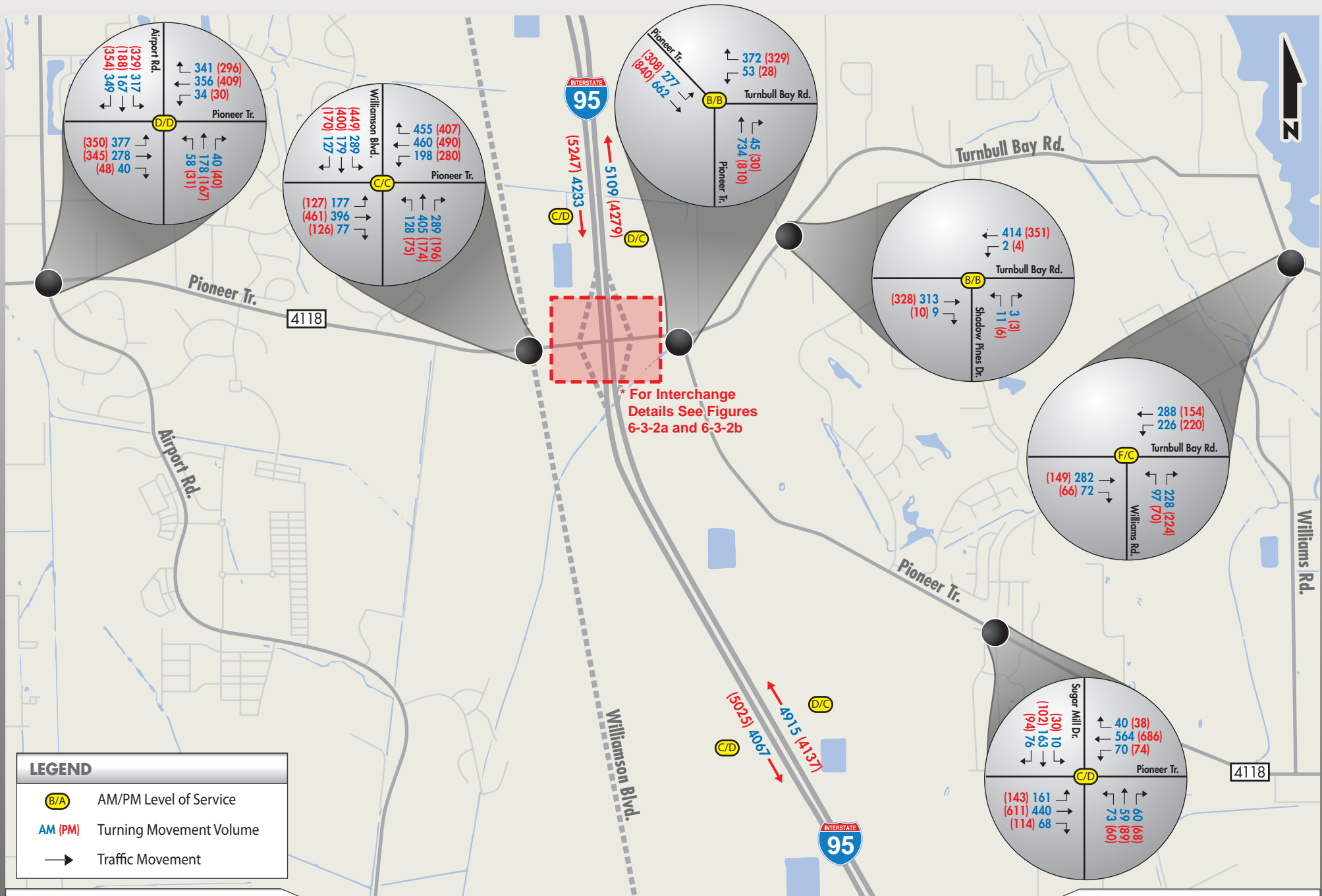


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-3-1
SR 44 - Year 2042 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative)

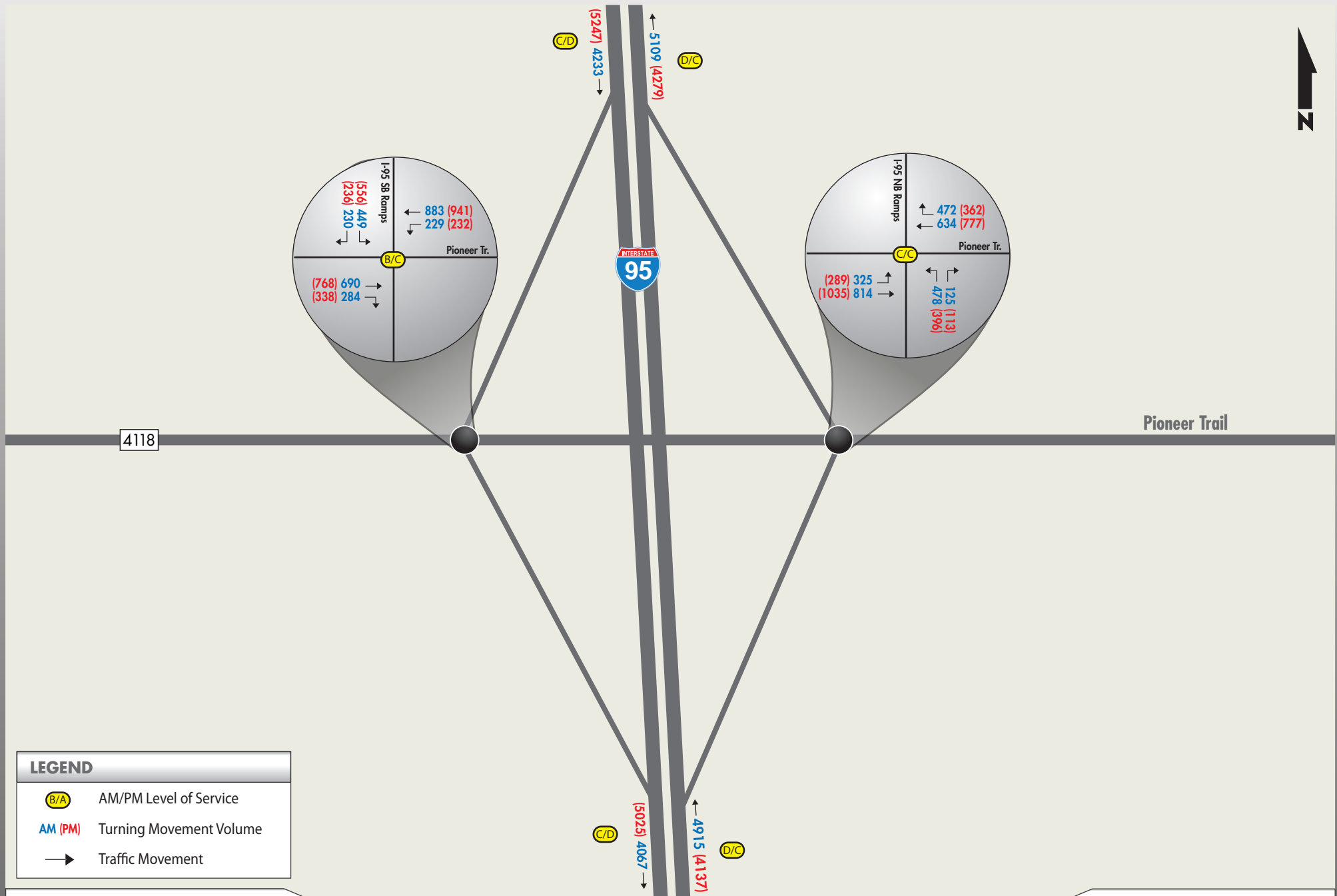


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

Figure 6-3-2
Pioneer Trail - Year 2042 AM & PM Peak Hour Volumes and Level of Service (Build Alternative)

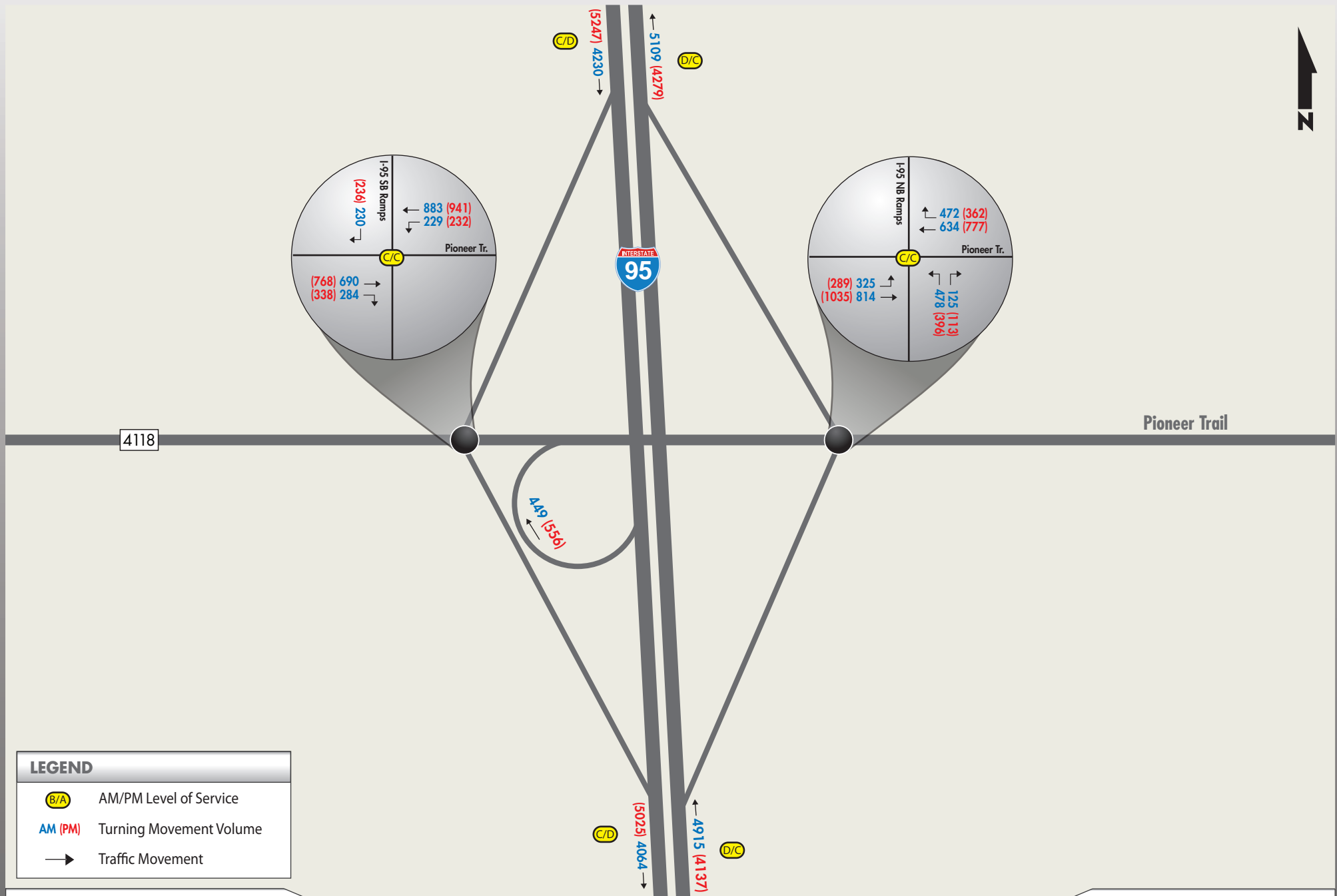


DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-3-2a
Pioneer Trail - Year 2042 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative 1 - Diamond Interchange)



DATE CREATED: 12/2/2014

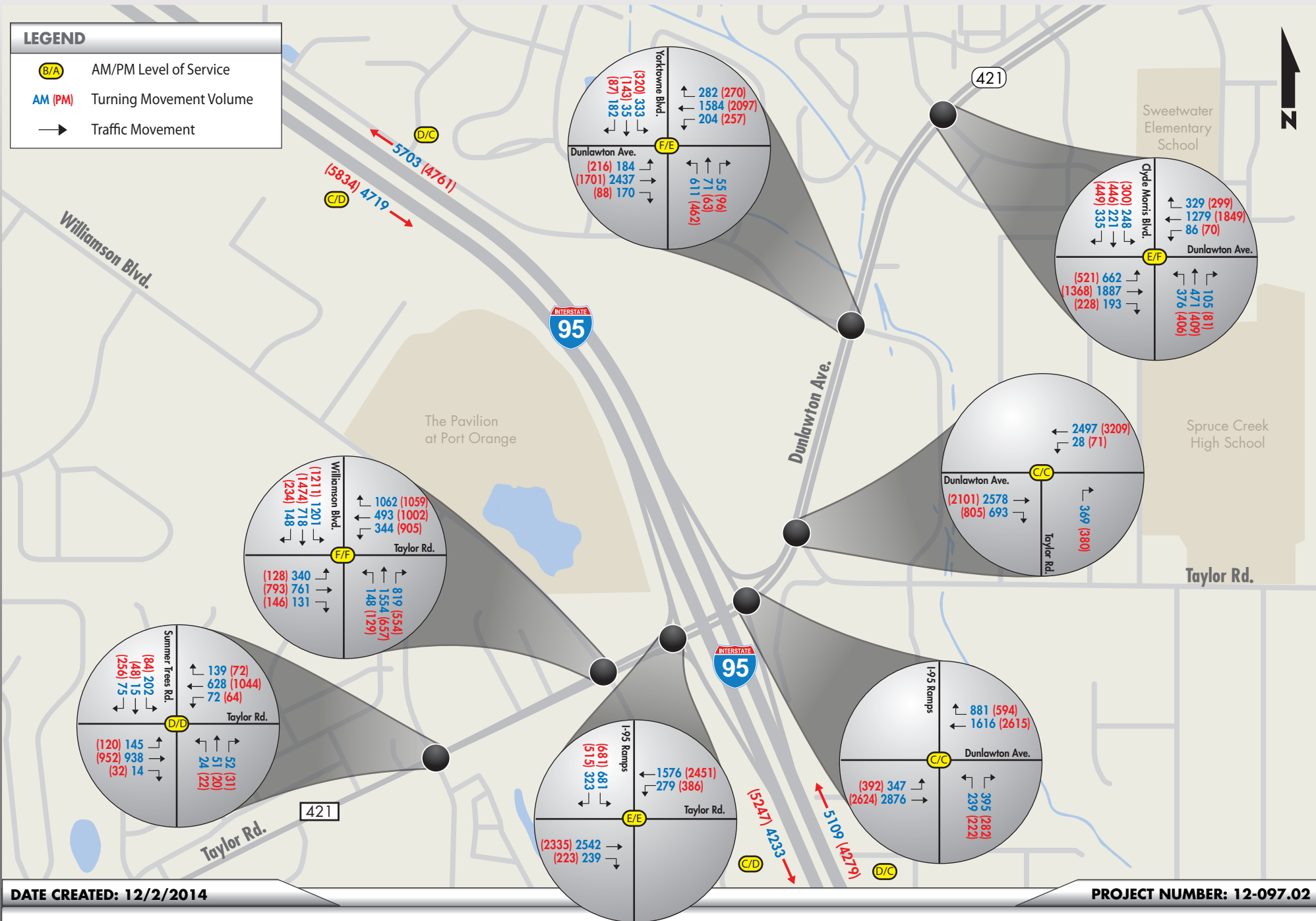
PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-3-2b
Pioneer Trail - Year 2042 AM & PM Peak Hour Volumes and
Level of Service (Build Alternative 2 - Par - Clo Interchange)

LEGEND

- B/A** AM/PM Level of Service
- AM (PM)** Turning Movement Volume
- Traffic Movement



DATE CREATED: 12/2/2014

PROJECT NUMBER: 12-097.02

I-95 at Pioneer Trail Interchange Volusia County

FIGURE 6-3-3
SR 421 - Year 2042 AM & PM Peak Hour Volumes and Level of Service (Build Alternative)

6.4 Build Alternative Safety Analysis

The Highway Safety manual (HSM) assists professionals in taking a substantive approach to safety, where expected crash frequencies and outcomes for different proposed alternatives can be predicted and analyzed. Tools identified in the HSM provide crash predictive methods that use roadway design and traffic data as key input data which are fundamental to project development. These quantitative safety analysis tools allow safety professionals to predict the number of crashes on the facility based on the roadway geometric features similar to how the Highway Capacity Software is used to predict how a facility will function in the future from an operations standpoint based on its proposed geometric configuration.

The Enhanced Interchange Safety Analysis Tool (ISATe) Version 6i is a safety analysis tool approved by FDOT to evaluate freeway and interchange safety. The ISATe was developed for inclusion as a Part C predictive method for the HSM. The ISATe predicts crashes by crash location, i.e., mainline freeway segments, ramp segments, and ramp terminals. The methodology also predicts crash severity for each crash type using the KABCO scale (K – fatal crashes; A, B, C – injury crashes of decreasing severity; O – PDO crashes). Inputs to the tool include both geometric and operational characteristics of roadway and ramp facilities. In this regard, the freeway facility is broken into one or more freeway sections based on the geometric characteristics and ramp junctions. ISATe also accounts for annual average daily traffic (AADT) volumes through user inputs. The measures are then combined as needed to describe the performance of the freeway section, interchange, or facility as a whole. As part of the I-95/Pioneer Trail IJR, ISATe was used to estimate crashes on mainline freeway and ramp segments.

The study segment of I-95 was divided into unique segments within which the site characteristics, such as traffic volume and geometry, are constant. Similarly, the ramp segments of the I-95/ SR 421 interchange and the I-95/ SR 44 interchange were also divided into unique segments based on geometry. The section of I-95 within the study area is being widened to a six-lane cross-section; as such, existing crash patterns do not represent the future conditions and were not included as part of the analysis. The roadway inventory data including lane width, shoulder width, median width, clear zone, rumble strips, and roadway barriers were obtained from the roadway design plans. Future traffic projections developed as part of the IJR were included in the analysis.

The opening year (YR 2022) and design year (YR 2042) conditions were analyzed using the HSM predictive methods coded in the ISATe tool to predict the number and severity of crashes expected to occur within the interchange area. The build alternative analyzed 16 freeway segments and 20 ramp segments while the no build alternative analyzed 12 freeway segments and 14 ramp segments.

ISATe results are expressed as a crash frequency. This is defined as the number of crashes segregated by severity type in a given time period, usually one year. The observed crash frequency is based on actual historical crash data, the predicted crash frequency uses results from a statistical model which can be for any time period past, present or future, and the expected average crash frequency combines the observed and predicted frequencies and is the most reliable for predicting the number of crashes at a specific site. As mentioned above, the predicted crash frequency has been recorded because of the I-95 widening project and no site specific crash data was entered as part of the analysis.

The analysis maintained the same study area limits for both the alternatives but varied the traffic volumes and geometric features based on the current design. The predicted crash number results are representative of the freeway and ramp segments within the study area.

Table 6-15 shows the predicted annual crashes by severity for the No Build Alternative using the ISATe analysis. The majority of predicted crashes are single injury (C) and property damage only crashes. These results are the predicted crashes for a specific yearly time period based on a statistical model from the ISATe software. ISATe worksheets are provided in **Appendix J**.

Table 6-15: No Build Alternative ISATe Outputs

Alternative	Analysis Year	Crash Severity					Total
		K	A	B	C	PDO	
No Build	2022	0.7	1.9	9.6	15.2	55.4	82.8
	2042	1.3	3.5	17.8	28.6	120.2	171.5

Table 6-16 shows the predicted annual crashes by severity for the Build Alternative using the ISATe analysis. The proposed Build Alternative is a diamond type interchange for I-95/Pioneer Trail.

Table 6-16: Build Alternative ISATe Outputs

Alternative	Crash Severity					Total
-------------	----------------	--	--	--	--	-------

	Analysis Year	K	A	B	C	PDO	
Build	2022	0.7	1.9	9.5	15.2	55.9	83.2
	2042	1.3	3.4	17.7	28.5	120.2	171.2

Similar to the No Build Alternative, the majority of predicted crashes in the Build Alternative are single injury (C) and property damage only crashes. As shown in **Table 6-16**, total crashes were slightly higher in the opening year mainly due to property damage crashes. However, predicted crashes showed a downward trend and resulted in slight reduction in crashes by the design year. It should be noted that both No Build and Build alternatives are predicted to have similar number of fatalities and severe injury crashes.

As traffic volumes increase by Year 2042, crashes on I-95 and at the interchanges can be expected to increase. However, the Year 2042 traffic forecasts show that building the Pioneer Trail interchange will reduce peak hour trips when compared with the no build conditions and has no adverse impacts to the safety of the interstate system within the area of influence. As previously stated, Pioneer Trail will be built to current design standards.

6.5 Alternatives Comparison

A comparison of the Build alternatives from an operational and travel service perspective shows that either configuration will effectively serve future needs. Despite the comparable performance relative to accepted standards, there are some subtle, but notable operational differences between the par-clo and diamond interchange alternatives, as well considerations for specific design elements and potential impacts to the surrounding undeveloped lands and utility infrastructure. These include:

- The par-clo alternative requires signalization at just one of two of the ramp terminal intersections. The northbound I-95 ramps are signalized, while the southbound I-95 ramps are stop controlled for the southbound exit with left turns yielding to oncoming traffic. The heaviest turning movement (SB I-95 to EB Pioneer Trail) is accommodated within the loop ramp that merges with eastbound Pioneer Trail under a yield condition. By contrast, the diamond alternative assumes signalization for both intersections.
- The par-clo configuration allows for a smaller footprint in the northwest quadrant, thereby reducing potential wetland impacts and avoiding the large electric transmission line that has a jog in locations in the northwest quadrant. The par-clo interchange may support shifting the northbound ramp terminal intersection further west, closer to the bridge to further reduce impacts given that the southbound ramps are not signalized. The diamond alternative may not readily support closer intersection spacing without significant additional laneage required on the bridge(s). The impacts that could potentially be avoided through exploration of a more-compact geometry for the northbound ramps represents potential cost savings for the par-clo alternative. This is provided that the increased bridge costs associated with the eastbound left turn lane are more than offset by RW and other impacts being reduced.
- In the southeast quadrant, both options involve similar challenges with overhead transmission lines that should be avoidable through development of a thoughtful design. However, the footprint required by the par-clo alternative lends itself to pushing the southbound entrance ramp connection to Pioneer Trail further west, thereby avoiding the utility conflict. The diamond configuration would need to explore either a further spread between ramp terminal intersections, or a more compact design that could significantly increase bridge costs and the overall design approach of single slab vs twin structures.

- The ramp configuration of both concepts allows for the potential implementation of roundabouts at the ramp terminal intersections. The current *FDOT Intersection Design Guide* states that roundabout alternatives should be considered where signalized intersections are proposed. For the diamond concept, utilizing roundabouts instead of signals at the ramp terminals would support a more compact system with less distance between the intersections, thereby reducing RW needs, impacts to wetlands/natural features, as well as avoiding the overhead utilities. If determined to be workable through further study, the use of roundabouts at the ramp terminals would also not require separate turn lanes to be developed on the bridges, thereby further reducing the overall project footprint and total project cost.

Table 6-17 compares the two Build alternatives with the No-Build alternative and summarizes the findings of the subject evaluation, including an assessment of planning-level costs for construction. It is also noted that the potential for this project to impact the natural, physical and social environment will be evaluated in greater detail as part of a future PD&E Study.

Table 6-17: Alternatives Comparison

Criteria	No Build	Diamond Interchange	Par-Clo Interchange
Conformance with master Plan and FDOT Policies and Standards	No	Yes	Yes
Traffic Operations Performance	No	Improved	Improved
Environmental Elements Impacts			
Air Quality Impacts	None	Minor	Minor
Potential Contamination Sites	None	None	None
Navigation	No	No	No
Wetlands (acres)	0	16.4	12.9
Schools and Churches	0	0	0
Noise Sites	0	0	0
Historical/Archaeological Sites	0	0	0
Total Parcels	0	2	2
Planning Level Cost	-	\$17.6 million	\$18.5 million

7.0 Summary of Key Assumptions, Findings, and Recommendations

The purpose of this section is to summarize the key assumptions used in the analysis, the key finding from the analysis, and recommendations of the IJR study.

7.1 Key Assumptions

Key assumptions regarding future development plans in the area, assumed roadway network changes, and evaluated SR 421 interchange area alternatives are described below.

7.1.1 Future Development Plans

Volusia County envisions significant growth from base year 2010 through the design year 2042. **Table 7-1** shows the planned developments included in the analysis. Complete build-out of these developments was included in the future year analysis.

Table 7-1: Planned Developments in Vicinity of Proposed Interchange

Development	Residential (DU)	Non-Residential (sq.ft)	Hotel (rooms)	Current Build Out %
Farmton DRI	4,692	820,217	0	0%
Restoration DRI	9,866	194,306	0	0%
Gardens 207 PUD	1,250	356,000	98	0%
Regency/Shoppes at Coronado PUD	0	350,000	0	40-60%
Venetian Bay PUD	1,823	110,000	0	40-50%
Hamton Village PUD	1,113	0	0	0%
Verano PUD	190	0	0	0%
Promenade Parke PUD	293	0	0	0%
Woodhaven PUD	1,300	650,000	0	0%
Pavilion at Port Orange DRI	0	800,000	0	40-60%
Planned Community Westside CPA	1,082	490,000	0	40-60%

7.1.2 Assumed Network Changes

The following roadway changes were assumed in both the future No Build and Build scenarios:

- The widening of I-95 to a 6-lane interstate facility from SR 406 to SR 44 and from SR 44 north to US 92;
- The widening of Pioneer Trail from two lanes to four lanes between Williamson Boulevard and Turnbull Bay Road;
- The extension of Williamson Boulevard as a four-lane divided arterial from Airport Road to Pioneer Trail, the extension of Williamson Boulevard as a two-lane road from Pioneer Trail to SR 44, and the extension of Williamson Boulevard as a two-lane road from SR 44 to SR 442; and
- The widening of Airport Road from two lanes to four lanes between Sabal Creek Boulevard and Pioneer Trail.

The following intersection changes were assumed in both the future No Build and Build scenarios:

- An additional left turn lane to facilitate westbound SR 421 to southbound I-95 is under construction as part of the I-95 design/build project;
- SR 44 and I-95 northbound ramps intersection: additional westbound left-turn was added during the design year to achieve acceptable level of service;
- Based on the SR 44 Corridor Management Study, the exit lane from southbound to eastbound loop ramp is extended downstream approximately 1,500 feet to provide free flow operation. The southbound to westbound ramp intersection is signalized. These improvements were implemented for the design year;
- SR 44 and Williamson Boulevard intersection: additional left-turn lanes were added on the westbound, southbound, and northbound approaches to achieve acceptable level of service;
- The intersections along Pioneer Trail at Airport Road, Tomoka Farms Road, and Sugar Mill Drive which are currently operating under flashing operation were considered to operate under signal control by opening year 2022;
- Pioneer Trail and Airport Road intersection: additional left-turn lanes were included on the eastbound and southbound approaches in design year 2042 to achieve acceptable level of service. Since Pioneer Trail is a two-lane collector road additional treatments to receive dual left-turn lanes were also provided; and

- Pioneer Trail and Williamson Boulevard: additional southbound left-turn lane is warranted by design year 2042 to achieve acceptable level of service.

7.1.3 SR 421 Interchange Area Alternatives

Several potential roadway and intersection improvement concepts along the SR 421 corridor were evaluated in an attempt to address future operational deficiencies in the I-95/SR 421 interchange area that were identified in the No Build and Build analysis. The presence of Williamson Boulevard approximately 650 feet to the west and Taylor Road less than 700 feet to the east combined with the projected future traffic volumes limits the number of alternatives that can reasonably be implemented.

Table 4-1 showed the improvement alternatives that were identified in the SR 421 interchange area. It is noted that Alternatives 1 through 4 were previously identified and evaluated as part of the SR 421/I-95 Interchange Analysis, dated January 2009, completed by Kimley-Horn & Associates, Inc. for the City of Port Orange. The following observations were made based on **Table 4-1**:

- Alternatives 4 and 6 and the construction of the Pioneer Trail interchange provide the most benefit based on the delay and LOS values at the I-95/SR 421 interchange ramp intersections. The benefits shown in Alternatives 4 and 6 are gained by creating additional capacity at the I-95/SR 421 interchange ramp intersections through significant geometric changes. The benefits shown for the I-95/Pioneer Trail interchange are gained by reducing the vehicle demand at the I-95/SR 421 interchange ramp intersections through the provision of the alternative connection being provided at Pioneer Trail.

7.2 Key Findings

The key findings related to the support of the economic viability and job creation associated with planned and approved future development in the study area, the reduction of congestion through the SR 421 interchange area, and the evaluation of regional trips served by the proposed I-95/Pioneer Trail interchange are summarized below. A summary of potential benefits to emergency evacuation conditions that would be realized by the proposed I-95/Pioneer Trail interchange and a summary of impacts to I-95 are also included.

Need: Support the Economic Viability and Job Creation Associated with Planned and Approved Future Development

Volusia County envisions significant growth from base year 2010 through the design year 2042. The I-95/Pioneer Trail interchange is included in the Cost Feasible Roadway Projects identified in the 2025 Long Range Transportation Plan (LRTP) and the River to Sea TPO 2035 LRTP Needs Plan. Previous planning efforts in 2005 (the Pioneer Trail Feasibility Study) and 2009 (the SR 421/I-95 Interchange Analysis) supported the need for the I-95/Pioneer Trail interchange. The City of Port Orange and Volusia County have expressed strong local support for the project.

A specific economic impact analysis of the proposed I-95/Pioneer Trail interchange was conducted to support the interchange justification (see **Appendix A**). The economic analysis utilized the IMPLAN (Impact Analysis for PLANning) model, development assumptions, and local knowledge of the area. The key conclusions of the analysis were by year 2042 construction of the interchange would:

- Add \$2.5 billion of economic impacts to the local economy due to construction;
- Employ nearly 700 construction and construction related workers during the development horizon;
- Support 13,410 permanent jobs; and
- Reach an addition of \$775 million per year of permanent, ongoing impacts from spending associated with new household operations and additional office/retail/hotel employment.

An increased economic efficiency value of \$1,779,687 due to savings in travel time and reductions in pollution during the year 2042 was also identified in the economic analysis.

Need: Reduce Congestion Through the I-95/SR 421 Interchange Area

The I-95/SR 421 interchange area is forecast to operate at or near capacity with extended queues during the peak hours. The FDOT, Volusia County, and the City of Port Orange have made a series of improvements in this area from 2006 to 2016 to accommodate increasing traffic volumes. The ability to add capacity in the SR 421 interchange area is constrained due to limited right-of-way and the impact of closely spaced signalized intersections to the west (at Williamson Boulevard) and east (at Taylor Road) and the high costs associated with replacing the I-95 bridge that is currently under construction. Consistent with previous studies in the area, it was also determined that the need exists to provide an alternative connection in the area to reduce the number of vehicles traveling through the interchange area.

The construction of the I-95/ Pioneer Trail Interchange results in the following:

- The total volume entering the SR 421 interchange area in the AM and PM peak hours is reduced.
- Intersection delay values at the SR 421 interchange ramp terminals and at Williamson Boulevard and Taylor Road are reduced; and
- Fewer vehicles using the SR 421/Williamson Boulevard intersection and specifically fewer vehicles making the congested westbound SR 421 to southbound Williamson Boulevard left turn movement.

Need: Serve Regional Trips

A select link analysis showed that I-95/Pioneer Trail interchange alternative primarily supports longer regional trips versus local trips along I-95.

Need: Emergency Evacuation Benefits

Pioneer Trail is a designated evacuation route. The addition of a new interchange at the subject location will improve evacuation efficiency and will serve the coastal residents. The network connectivity of Pioneer Trail with all major corridors in the area provides direct accessibility to I-95 for emergency purposes. Additionally, a new interchange at this location will provide additional regional access to facilitate development of new public evacuation shelters along with the development plans identified in the study area.

Impacts to I-95 Operations

The construction of the I-95/Pioneer Trail interchange will not cause I-95 to operate below the adopted level of service (LOS) standard. In both the No Build and Build conditions, all freeway segments are estimated to operate at an acceptable LOS D or better in all the analysis years, with the exception of the I-95 segment to the north of SR 421 (projected to operate at LOS E in both conditions). I-95 ramp junctions at SR 421 and at SR 44 are projected to have reduced traffic congestion (as measured in density levels) in the Build condition, thus relieving congestion from both interchanges.

Impacts to I-95 Safety

Based on the results of a Highway Safety Manual analysis using ISATe software, the construction of the I-95/Pioneer Trail interchange is not expected to have an adverse impact to the safety of the interstate system within the area of influence.

7.3 Recommendations

After consideration of the operational analysis, and the geometric and environmental constraints present in this IJR, construction of the I-95/Pioneer Trail interchange is recommended. The proposed par-clo interchange alternative is recommended as the preferred alternative because it provides the necessary operational efficiency and offers the benefit of not requiring a traffic signal at the southbound ramp intersection while meeting the minimum level of service standard and minimizing environmental impacts. Upon acceptance of the IJR, the final interchange configurations will be the subject of further study during a PD&E study. The PD&E Study for this project is included in the current FDOT Five Year (2016-2021) Work Program in Year 2017.

8.0 Conceptual Funding Plan

The PD&E Study for this project is included in the current FDOT Five Year (2016-2021) Work Program in Year 2017. The design phase of the project will be programmed by the Department in the next fiscal year. As per Volusia County, the additional right of way needed for the new interchange is expected to be donated by the surrounding developments along Pioneer Trail or from other funding sources depending upon the final configuration of the interchange. The LRTP has to be amended to utilize funds for construction of the interchange prior to receiving Location Design Concept Approval for the subsequent PD&E phase.

9.0 Appendices

Appendix A Economic Impact Analysis of Pioneer Trail Interchange at I-95 Volusia County

Appendix B Methodology Letter of Understanding

Appendix C Raw Traffic Counts

Appendix D FDOT Counts and Seasonal & Axle Factors

Appendix E Existing Conditions Analysis Worksheets

Appendix F Travel Demand Model Plots and Socioeconomic Data

Appendix G TMTools Analysis

Appendix H SR 421 Improvements – Analysis Worksheets

Appendix I No Build and Build Analysis Worksheets

Appendix J ISATe Analysis Worksheets

Appendix A

Economic Impact Analysis

ECONOMIC IMPACT ANALYSIS OF PIONEER TRAIL INTERCHANGE AT I-95 VOLUSIA COUNTY

November 4, 2016

Prepared by:

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12051 Corporate Blvd.
Orlando, Florida 32817
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Executive Summary

District Five of the Florida Department of Transportation (“FDOT”) issued its Interstate 95 (“I-95”) and Pioneer Trail Interchange Justification Report (“IJR”) for the proposed interchange in Volusia County in June, 2016. The proposed new I-95 interchange will be located at Pioneer Trail in Volusia County, between two existing interchanges; SR 44 and SR 421/Dunlawton/Taylor Road at Port Orange.

Economic growth and development associated with new home construction and growth in office and retail space occurs when there is sufficient supporting infrastructure to accommodate this growth. Without adequate roads and the access to properties these roads provide, residential and commercial growth is constrained. This analysis reflects the difference between the constrained scenario without the interchange and the unconstrained growth scenario with the interchange. These differences have been shown over a 20-year horizon from the proposed interchange opening. Table E-1 shows the net difference between the build and no-build alternatives.

Table E-1 Additional Net Growth Due to Interchange Construction

	2022	2032	2042
Households	2,008	5,263	10,015
Office/Retail (SqFt)	695,722	790,271	1,643,530
Hotel Rooms	15	57	87

Source: Fishkind & Associates, Inc.

Fishkind & Associates, Inc. (“Fishkind”) prepared an economic impact analysis of the additional economic activity caused by construction of the interchange at the I-95 and Pioneer Trail location. Economic impacts of this activity include jobs, wages and total economic activity. The economic impacts are generated from the following: a) interchange construction activity, b) net additional real estate construction and development with the interchange, c) net additional household operational spending and commercial employment with the interchange, d) non-market benefits of; travel time savings; value of reduced pollution; and value of increased traffic safety.

Interchange planning, design and construction impacts will occur over a four-year period, continuously employing 44 persons, with total economic impacts of \$23.5 million.

Vertical construction will include an additional 10,000 homes and 1.7 million square feet of retail/office/hotel space, through year 2042. Construction activity will add impacts of \$2.5 billion, while continuously employing nearly 700 construction and construction related workers during the development horizon. Table E-2 details the construction related impacts which include the interchange construction as well as additional real estate development supported and accommodated by the new infrastructure.

Table E-2. Economic Impacts of Construction

Impact 2022	Employment	Wages	Output
Direct Effect	355	\$93,599,502	\$373,867,892
Indirect Effect	162	\$30,540,316	\$99,199,857
<u>Induced Effect</u>	118	\$25,860,189	\$83,280,560
Total Effect	634	\$150,000,007	\$556,348,308
Impact 2032	Employment	Wages	Output
Direct Effect	333	\$216,415,199	\$889,999,400
Indirect Effect	160	\$74,125,775	\$241,074,216
<u>Induced Effect</u>	110	\$60,528,912	\$194,927,287
Total Effect	603	\$351,069,886	\$1,326,000,903
Impact 2042	Employment	Wages	Output
Direct Effect	379	\$410,293,568	\$1,688,190,851
Indirect Effect	181	\$140,035,285	\$455,871,005
<u>Induced Effect</u>	125	\$114,649,710	\$369,218,138
Total Effect	685	\$664,978,563	\$2,513,279,995

Source: Fishkind & Associates, Inc.; Copyright 2016 Minnesota IMPLAN Group, Inc.

Permanent, ongoing impacts from spending associated with new household operations and additional office/retail/hotel employment will reach \$775 million per year, by year 2042. This will support 13,410 permanent jobs, as shown in Table E-3. These impacts also include the benefits of increased economic efficiency created by reduced traffic congestion, travel time savings and lower pollution emissions.

Table E-3. Permanent Economic Impacts of New Households, Office/Retail/Hotel Employment and Non-Market Efficiencies

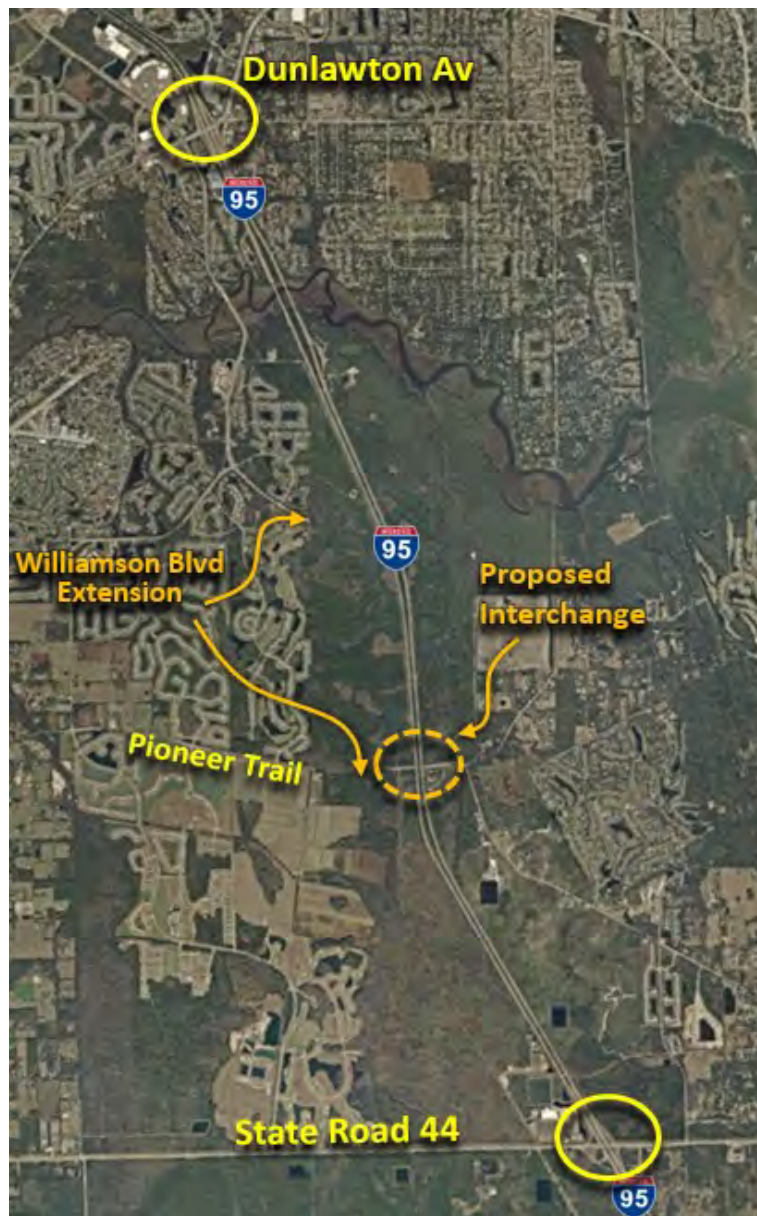
Impact 2022	Employment	Wages	Output
Direct Effect	2,659	\$72,595,016	\$141,565,705
Indirect Effect	247	\$9,125,658	\$30,421,973
<u>Induced Effect</u>	465	\$17,020,805	\$54,814,630
Total Effect	3,371	\$98,741,479	\$226,802,308
Impact 2032	Employment	Wages	Output
Direct Effect	5,651	\$142,530,574	\$243,163,322
Indirect Effect	378	\$14,023,028	\$45,950,373
<u>Induced Effect</u>	891	\$32,596,043	\$104,976,082
Total Effect	6,920	\$189,149,645	\$394,089,778
Impact 2042	Employment	Wages	Output
Direct Effect	10,918	\$277,337,912	\$479,049,540
Indirect Effect	754	\$27,935,917	\$91,724,713
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Total Effect	13,410	\$368,836,972	\$775,479,970

Source: Fishkind & Associates, Inc.; Copyright 2016 Minnesota IMPLAN Group, Inc.

1.0 Introduction

FDOT issued its I-95 and Pioneer Trail Interchange Justification Report for the proposed interchange in Volusia County in June, 2016. The proposed interchange will be located between the I-95 interchange at SR 44 and the I-95 interchange at SR 421 Taylor/Dunlawton Avenue (Map 1). This analysis examines the economic impacts of the interchange flowing from: interchange construction activity itself; increased volume and pace of real estate development; the value of travel time savings; the value of reduced pollution and the value of increased traffic safety.

Map 1. I-95 and Pioneer Trail Interchange Location



1.1 Economic Impact Analysis Overview

The analysis determines the economic impacts of the construction of the new interchange and associated effects as described. This study relies on data gathered from the following sources:

- Primary Data for surrounding planned development as provided by FLDOT
- Fishkind & Associates, Inc.
- Economic Impact Modeling using IMPLAN

A systematic analysis of local level economic impacts is essential for effective planning in the public- and private-sectors. Fishkind & Associates, Inc. has used the IMPLAN analysis program for determining economic multipliers which give rise to indirect and induced multiplier effects for this analysis, for the Volusia County economy.

The economic impact of the Pioneer Trail Interchange includes four components:

- Temporary construction impacts from interchange construction
- Temporary construction impacts from increased volume and pace of real estate development with the interchange
- Ongoing economic impacts stemming from increased employment and new households
- The value of travel time savings, pollution avoidance and safety improvements.

2.0 Economic Impact Analysis of Interchange Construction

Economic impacts are concerned with the amount of spending that takes place in the local community (called the direct effect) and the impact of that spending when it is re-spent in the community (the multiplier effect), by local businesses and workers throughout the Volusia County economy. Some of the interchange construction project costs are spent outside the local area, for the purchase of specialty steel and equipment, materials and services not produced locally. As a result, the direct effect of local spending is reduced when compared with the total project cost. The total project cost is estimated to be \$22 million and will take approximately four years to complete. Appendix 1 includes the local Transportation Planning Organization Year 2040 Long Range Transportation Plan Cost Feasible Project List which includes the Pioneer Trail/I-95 Interchange.

Typically, in highway and bridge construction, labor costs are 50% of project totals and materials are 50%. In addition to construction costs planning, design and engineering costs are also included, of which a higher percentage is typically spent locally. Of the overall interchange budget, Fishkind estimates approximately two-thirds of total project costs take place within Volusia County, resulting in construction related economic impacts.

The estimated budget for interchange planning, design, engineering and construction is \$22 million. Of the new interchange budget amount, an estimated \$14.8 million is direct spending, to be spent in the local economy. It is this direct spending amount which creates the multiplier effect when it is re-spent in the community. Spending will occur from 2018 through 2022, approximately four years including planning and design. Table 1 provides the summary of the direct effect of local construction spending and the resulting multiplier effect. Employment is shown as estimated average annual employment.

Table 1. Economic Impacts of Pioneer Trail Interchange Construction

Impact Type 2018-2022	Annual Employment	Labor Income	Output
Direct Effect	24	\$4,554,971	\$14,749,999
Indirect Effect	11	\$1,574,708	\$4,681,574
Induced Effect	9	\$1,277,562	\$4,114,151
Total Effect	44	\$7,407,241	\$23,545,724

Source: Fishkind & Associates, Inc.; Minnesota IMPLAN Group, Inc., Copyright 2016

Local impacts generated by the construction program will result in local employment of 44 persons per year during the construction period. The economic impact of construction will reach \$23.6 million. Some \$7.4 million will be paid in construction and related employment wages.

Key industries benefitted from interchange construction include architectural, engineering and specialty construction firms.

3.0 Construction Impacts from Increased and Accelerated Real Estate Development

It is generally acknowledged real estate development will take place when necessary infrastructure is in place to accommodate this growth. Conversely, without adequate infrastructure and roadway access, development may still occur, but only in a constrained fashion throughout the underserved location¹. Thus, in the interchange Study Area, without adequate infrastructure, less development occurs overall and what does occur, takes place at a slower rate. Development pace and buildout volumes will increase with the interchange in place. Fishkind has estimated the effects of Pioneer Trail Interchange construction on the accelerated pace and volume of real estate development in the Study Area. Map 2 shows the entitled development areas as well as vacant lands with development potential identified by boxes in red lines. These areas define the Study Area which is used to define the area subject to the economic impacts of interchange construction. As noted in the FDOT Interchange Justification Report (IJR), the Pioneer Trail interchange supports development immediately surrounding the interchange. But also, the IJR indicates the Pioneer Trail Interchange will relieve congestion at interchanges both north and south. By relieving congestion elsewhere, the new interchange supports additional volume and pace of development on lands at the surrounding interchanges as well.

Table 2 shows the anticipated net change in development for the time periods 2022, 2032 and 2042, due to interchange construction. Appendix 2 shows existing entitlements, as well as the estimated percentage development of entitlements, with and without interchange construction. Estimates of development changes with and without the interchange were developed by Fishkind & Associates, Inc. These estimates are based on our understanding and local knowledge of real estate development, sub-market growth patterns in Volusia County, as well as market demand and population growth trends.

Table 2. Study Area Additional Net Development with Interchange

	<u>2022</u>	<u>2032</u>	<u>2042</u>
Households (DU)	2,008	5,263	10,015
Office/Retail (SqFt)	695,722	790,271	1,643,530
Hotel Rooms	15	57	87

Source: Fishkind & Associates, Inc.

¹ https://www.fhwa.dot.gov/planning/processes/land_use/references/tranlanduse.cfm

The construction of the additional homes and employment space due to interchange development as shown in Table 2 will result in substantial construction related economic impacts. These impacts will occur over a 20-year development period, from 2022 through 2042. By 2042, with the interchange built, there will be an additional 10,000 residential units and 1.7 million square feet of office/retail/hotel space constructed, which would not have occurred absent the interchange.

The value of this construction includes an estimated \$1.7 billion, to be spent locally over the 20-year horizon. This gives rise to very substantial vertical development construction related economic impacts. These impacts are in addition to the spending and impacts related to the interchange construction itself. Table 3 shows the estimated locally spent dollars in additional real estate development construction spending, resulting from the interchange being put in place. Additional construction spending associated with this development will take place outside the local economy, for the purchase of non-local materials. Non-local spending is excluded from the economic impact calculation.

Table 3. Additional Construction Spending with Pioneer Tr. Interchange

Local \$\$ - Vertical Construction	<u>2022</u>	<u>2032</u>	<u>2042</u>
Single Family Residential	\$313,179,360	\$821,098,200	\$1,562,394,600
Office	\$18,088,767	\$20,547,041	\$42,731,771
Retail	\$27,133,151	\$30,820,561	\$64,097,656
Hotel	\$716,625	\$2,783,625	\$4,216,875
Additional Construction Amount - With Interchange	\$359,117,903	\$875,249,427	\$1,673,440,902

The economic impacts of this additional construction spending are shown in Table 4.

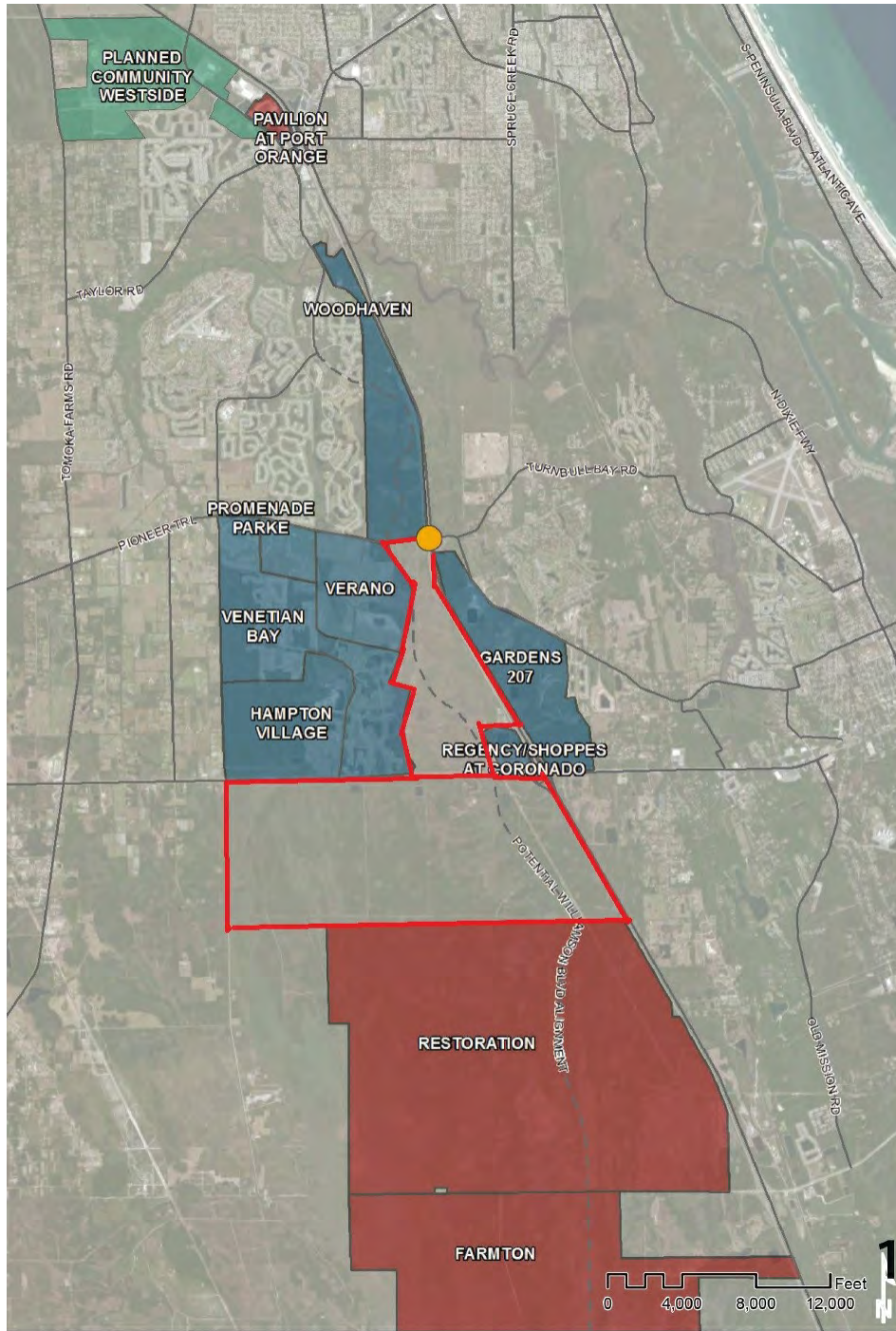
Table 4. Economic Impact of Additional Real Estate Construction Activity

Impact 2022	Employment	Wages	Output
Direct Effect	338	\$89,044,531	\$359,117,892
Indirect Effect	154	\$28,965,608	\$94,518,283
<u>Induced Effect</u>	<u>112</u>	<u>\$24,582,627</u>	<u>\$79,166,409</u>
Total Effect	605	\$142,592,766	\$532,802,584
Impact 2032	Employment	Wages	Output
Direct Effect	327	\$211,860,228	\$875,249,401
Indirect Effect	157	\$72,551,066	\$236,392,642
<u>Induced Effect</u>	<u>108</u>	<u>\$59,251,350</u>	<u>\$190,813,136</u>
Total Effect	591	\$343,662,644	\$1,302,455,179
Impact 2042	Employment	Wages	Output
Direct Effect	375	\$405,738,597	\$1,673,440,852
Indirect Effect	179	\$138,460,577	\$451,189,431
<u>Induced Effect</u>	<u>124</u>	<u>\$113,372,147</u>	<u>\$365,103,987</u>
Total Effect	678	\$657,571,321	\$2,489,734,271

Source: Fishkind & Associates, Inc.; Minnesota IMPLAN Group, Inc., Copyright 2016

With the Pioneer Trail interchange, there will be additional real estate construction employment supported through year 2042. Between 600 and 700 persons will be continuously employed, due to the additional real estate development activity. Of this activity, by year 2022 more than \$500 million in additional local economic activity will occur, which, without the interchange would not have happened. By year 2042 the cumulative economic impact of additional real estate development will add \$2.5 billion to the Volusia economy, having employed nearly 700 construction and construction-related workers continuously, over the 20-year horizon.

Map 2 – Entitled and Vacant Lands in Interchange Study Area



3.1 Economic Impact of Additional Real Estate Construction on Key Industries

The impacts of additional construction can be described and illustrated among the different industries and areas of business affected by construction activity in the local economy. Table 5 illustrates the most prominent industries throughout the Volusia economy which will benefit from additional construction activity, through year 2042. The distribution of construction effects across industries is consistent during the earlier 2022 and 2032 time periods as well.

Construction activity will be ongoing for 20 years. This results in the cumulative impacts of \$2.5 billion with continuous construction and construction-related employment of nearly 700 workers, during the development phase.

Table 5. Pioneer Trail Interchange – Economic Impact on Key Industries from Additional Real Estate Development Construction Activity; Year 2042

Description	Average Annual Employment	Wages	Output
Construction single-family residential	434	\$369,559,087	\$1,562,394,553
Construction commercial structures	35	\$36,179,510	\$111,046,299
Retail - Clothing & accessories stores	35	\$13,697,504	\$53,290,154
Retail – Non-store retailers	27	\$8,801,149	\$56,508,541
Retail - Miscellaneous store retailers	20	\$8,535,075	\$15,057,486
Real estate	20	\$4,637,806	\$57,061,533
Retail - Health, personal care stores	16	\$12,598,419	\$25,198,021
Retail - General merchandise stores	15	\$8,536,659	\$21,933,119
Wholesale trade	13	\$16,430,429	\$58,407,090
Full-service restaurants	12	\$5,460,427	\$12,577,110
Subtotal of Key Industries	627	\$484,436,064	\$1,973,473,906
Impacts of Additional Real Estate Construction	678	\$657,571,321	\$2,489,734,271

Source: Fishkind & Associates, Inc.; Copyright 2016 Minnesota IMPLAN Group, Inc.

4.0 Permanent Economic Impacts of New Households and Employment

As described in Table 6 there will be an estimated 10,000 additional households and 1.7 million square feet of retail, office and hotel space built as a result of constructing the Pioneer Trail Interchange. Without the interchange construction Fishkind & Associates, believes this additional development would not occur. Spending in the local economy flowing from new household formations and additional employment will have beneficial ongoing, permanent annual economic impacts. These impacts will continue to benefit the local economy after the additional real estate construction activity is complete and the economic impacts of construction cease.

The economic impact of new households is generated by the spending of household income in the local economy. Household spending in the local economy is determined by examining household consumer expenditure patterns as published by the US Department of Labor, through the annual Consumer Expenditure Survey². This survey details household spending by type of expenditure. Through this survey Fishkind determines what portions of household income are spent and retained in the local economy. Local spending supports local employment, gives rise to economic impacts and the multiplier effect as local workers and businesses re-spend these dollars. Household local spending includes retail spending such as food and clothing; transportation expenditures including auto purchase, repair and fuel; household operations spending on utilities and services such as cable, lawn maintenance and daily/weekly maintenance; medical and personal care expenditures; and local taxes. Much of other household spending that takes place does not occur in the local economy and generally has no local economic impact.

In addition to the new household formations an estimated 1.7 million square feet of employment based building space will be constructed. Once occupied, the business tenants will spend locally, in ways similar to local households; and the employees of these businesses will re-spend their salaries locally as well. Table 6 shows the additional net development expected to occur over time due to the Pioneer Trail interchange.

² US Department of Labor; Consumer Expenditure Survey, <http://www.bls.gov/cex/>

Table 6. Study Area Additional Net Development with Interchange

	2022	2032	2042
Households (DU)	2,008	5,263	10,015
Office/Retail (SqFt)	695,722	790,271	1,643,530
Hotel Rooms	15	57	87

Source: Fishkind & Associates, Inc.

Table 7 depicts the ongoing permanent economic impacts of new households and employment based building space, as of analysis years 2022, 2032, and 2042.

Table 7 Permanent Economic Impacts of Additional Households and Employment Based Space

Impact 2022	Employment	Wages	Output
Direct Effect	2,659	\$72,595,016	\$141,126,655
Indirect Effect	247	\$9,125,658	\$30,421,973
<u>Induced Effect</u>	465	\$17,020,805	\$54,814,630
Total Effect	3,371	\$98,741,479	\$226,363,258
Impact 2032	Employment	Wages	Output
Direct Effect	5,651	\$142,530,574	\$242,261,691
Indirect Effect	378	\$14,023,028	\$45,950,373
<u>Induced Effect</u>	891	\$32,596,043	\$104,976,082
Total Effect	6,920	\$189,149,645	\$393,188,146
Impact 2042	Employment	Wages	Output
Direct Effect	10,918	\$277,337,912	\$477,269,853
Indirect Effect	754	\$27,935,917	\$91,724,713
<u>Induced Effect</u>	1,738	\$63,563,143	\$204,705,717
Total Effect	13,410	\$368,836,972	\$773,700,283

Source: Fishkind & Associates, Inc.; Minnesota IMPLAN Group, Inc., Copyright 2016

Permanent economic impacts are projected to reach \$226 million per year and employ nearly 3,400 persons as of year 2022, the projected opening year of the interchange. By 2032 employment will double and annual impacts will reach almost \$400 million per year. Over the twenty-year outlook, to year 2042, permanent employment impacts will reach 13,410 jobs and annual economic impact will add \$773.7 million; approximately three-quarters of a billion dollars contributed annually to annual economic activity in Volusia County.

4.1 **Economic Impact of New Households and Employment Space on Key Industries**

The impacts of new households and additional employment space can be described and illustrated among the different industries and areas of business affected by the spending and employment activity in the local economy. Table 8 illustrates the projected effects of new household spending and employment among key benefitted industries as of 2042. The distribution of household spending and new employment effects across industries is consistent during the earlier 2022 and 2032 time periods as well.

Table 8. Pioneer Trail Interchange – Economic Impacts to Key Industries from New Households and Employment Activity; Year 2042

Description	Employment	Wages	Output
Private households	6,600	\$102,573,232	\$103,387,458
Accounting, tax prep., & payroll svcs.	1,138	\$42,967,649	\$86,659,059
Transit and ground passenger transportation	984	\$27,504,040	\$65,205,840
Retail - General merchandise stores	888	\$24,743,781	\$63,573,846
Local govt, public education	563	\$33,364,245	\$39,915,456
Advertising, Pub. Rel., related services	556	\$23,042,517	\$94,099,341
Offices of physicians	420	\$34,100,150	\$48,857,815
Real estate	200	\$2,358,197	\$29,014,223
Full-service restaurants	153	\$3,435,507	\$7,913,072
Employment services	114	\$2,434,068	\$4,133,702
Subtotal of Key Industries	11,614	\$296,523,386	\$542,759,813
Impact of New HH and Empl. Space	13,410	\$368,836,972	\$773,700,283

Source: Fishkind & Associates, Inc.; Copyright 2016 Minnesota IMPLAN Group, Inc.

5.0 **Permanent Economic Impacts of Non-Market Goods**

With the new interchange facility, there will be reduced traffic congestion leading to travel time savings for motorists, travel safety improvements and a reduction in total pollution. While these savings have value, they are not bought and sold on the open market and are not defined as market goods or services. Further, while time, safety and pollution are valued in dollar terms, the dollar valuation is a cash equivalency only. Thus, when interchange improvements are made, for these non-market aspects, there is no additional spending in the local economy which generates jobs and wages. However, all three contribute to greater efficiency within the local economy and have a measurable dollar equivalency. Therefore, the total

dollar amounts associated with these three non-market goods are added to direct local output. Thereby, the economic impact analysis reflects increased economic efficiency and therefore an increase in total economic value of the local economy due to the addition of the value of non-market goods. Inclusion of the value of non-market goods at the economic output level increases permanent impacts, without increasing jobs and wages.

The non-market valuations were calculated using AADT Tables 3-6 and 3-7 of the Final Pioneer Trail Interchange Justification Report (June 2016) as well as time delay analysis from Section 6.0. Detailed calculations for time savings and pollution costs are found in Appendix 3. Savings from crash reduction and safety were de minimis and therefore not included.

Table 9 details the valuation of time savings and pollution reduction as of the study years 2022, 2032 and 2042.

Table 9. Value of Non-Market Goods

	2022	2032	2042
Travel Time Savings	\$436,986	\$897,393	\$1,771,322
Pollution Savings	\$2,064	\$4,238	\$8,365
<u>Safety</u>	<u>-NA-</u>	<u>-NA-</u>	<u>-NA-</u>
Non-Market Goods	\$439,050	\$901,631	\$1,779,687

Source: Fishkind & Associates, Inc.

Table 10 shows the permanent economic impacts with the inclusion of the non-market valuations added to Direct Effect Output, and is also reflected in the Total Effect Output. Permanent impacts are annually recurring. This means the total wages and output shown are added into the economy each year on an ongoing basis, supporting 13,410 jobs on an ongoing, permanent basis.

Table 10 Permanent Economic Impacts of New Households, Office/Retail/Hotel Employment and Non-Market Efficiencies

Impact 2022	Employment	Wages	Output
Direct Effect	2,659	\$72,595,016	\$141,565,705
Indirect Effect	247	\$9,125,658	\$30,421,973
<u>Induced Effect</u>	<u>465</u>	<u>\$17,020,805</u>	<u>\$54,814,630</u>
Total Effect	3,371	\$98,741,479	\$226,802,308
Impact 2032	Employment	Wages	Output
Direct Effect	5,651	\$142,530,574	\$243,163,322
Indirect Effect	378	\$14,023,028	\$45,950,373
<u>Induced Effect</u>	<u>891</u>	<u>\$32,596,043</u>	<u>\$104,976,082</u>
Total Effect	6,920	\$189,149,645	\$394,089,778
Impact 2042	Employment	Wages	Output
Direct Effect	10,918	\$277,337,912	\$479,049,540
Indirect Effect	754	\$27,935,917	\$91,724,713
<u>Induced Effect</u>	<u>1,738</u>	<u>\$63,563,143</u>	<u>\$204,705,717</u>
Total Effect	13,410	\$368,836,972	\$775,479,970

Source: Fishkind & Associates, Inc.; Minnesota IMPLAN Group, Inc., Copyright 2016

6.0 Summary of Economic Impacts and Conclusions

There are significant benefits to the Volusia County economy resulting from the construction of the Pioneer Trail Interchange. The interchange itself has direct construction related benefits in the short term. Over the long term, the installation of the interchange represents a major new roadway infrastructure component. The interchange creates structural changes in the functioning of the local economy within the Study Area. This structural change will allow for accommodation of additional real estate development that would otherwise have not taken place without the interchange in place.

Fishkind & Associates, Inc has estimated the economic impacts of additional real estate development both for construction impacts and permanent ongoing economic impacts. These impacts are illustrated in terms of jobs, wages and total economic output or activity, for direct, indirect and induced economic effects.

In addition to the economic impacts, there are non-market savings which occur and improve the efficiency and therefore the value of the local economy. These savings are found in reduced congestion which leads to less travel delay, less overall pollution and to a limited degree increased traffic safety.

The Pioneer Trail interchange will create 13,410 permanent jobs, contributing \$775 million in economic impact annually. These impacts develop over a twenty-year period from 2022 through 2042, reaching these sustained levels at buildout in 2042.

Total construction impacts, including interchange construction and real estate construction, will reach \$2.5 billion over the 20-year development horizon and employ nearly 700 construction and construction-related workers continuously throughout the development period. Table 11 shows the combined interchange and real estate construction impacts.

Table 11. Economic Impacts of Construction

Impact 2022	Employment	Wages	Output
Direct Effect	355	\$93,599,502	\$373,867,892
Indirect Effect	162	\$30,540,316	\$99,199,857
<u>Induced Effect</u>	118	\$25,860,189	\$83,280,560
Total Effect	634	\$150,000,007	\$556,348,308
Impact 2032			
	Employment	Wages	Output
Direct Effect	333	\$216,415,199	\$889,999,400
Indirect Effect	160	\$74,125,775	\$241,074,216
<u>Induced Effect</u>	110	\$60,528,912	\$194,927,287
Total Effect	603	\$351,069,886	\$1,326,000,903
Impact 2042			
	Employment	Wages	Output
Direct Effect	379	\$410,293,568	\$1,688,190,851
Indirect Effect	181	\$140,035,285	\$455,871,005
<u>Induced Effect</u>	125	\$114,649,710	\$369,218,138
Total Effect	685	\$664,978,563	\$2,513,279,995

Source: Fishkind & Associates, Inc.; Copyright 2016 Minnesota IMPLAN Group, Inc.

Table 12 shows the permanent economic impacts of new household spending, office/retail/hotel employment as well as the increased value of non-market goods, including the value effect of time savings and savings from pollution reduction on economic output.

Table 12. Permanent Economic Impacts of New Households, Office/Retail/Hotel Employment and Non-Market Efficiencies

Impact 2022	Employment	Wages	Output
Direct Effect	2,659	\$72,595,016	\$141,565,705
Indirect Effect	247	\$9,125,658	\$30,421,973
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Source: Fishkind & Associates, Inc.; Copyright 2016 Minnesota IMPLAN Group, Inc.

7.0 Economic Impact Methodology - IMPLAN

The economic impact methodology utilized to determine the multiplier effects is IMPLAN (IMpact Analysis for PLANning).

IMPLAN's Social Accounting Matrices (SAMs) capture the actual dollar amounts of all business transactions taking place in a regional economy as reported each year by businesses and governmental agencies. SAM accounts are a better measure of economic flow than traditional input-output accounts because they include "non-market" transactions. Examples of these transactions would be taxes and unemployment benefits.

Multipliers

Social Accounting Matrices can be constructed to show the effects of a given change on the economy of interest. These are called Multiplier Models. Multiplier Models study the impacts of a user-specified change in the chosen economy for 440 different industries. Because the Multiplier Models are built directly from the region specific Social Accounting Matrices, they will reflect the region's unique structure and trade situation.

Multiplier Models are the framework for building impact analysis questions. Derived mathematically, these models estimate the magnitude and distribution of economic impacts, and measure three types of effects which are displayed in the final report. These are the direct, indirect, and induced changes within the economy. Direct effects are determined by the Event as defined by the user (i.e. a \$10 million dollar order is a \$10 million dollar direct effect). The indirect effects are determined by the amount of the direct effect spent within the study region on supplies, services, labor and taxes. Finally, the induced effect measures the money that is re-spent in the study area as a result of spending from the indirect effect. Each of these steps recognizes an important leakage from the economic study region spent on purchases outside of the defined area. Eventually these leakages will stop the cycle.

Appendix 1 LRTP Cost Feasible Plan

Legend

SIS Projects

- Expansion Project
- - - - - New Road Project
- New Interchange at I-95/Maytown Rd

Non-SIS State Roads

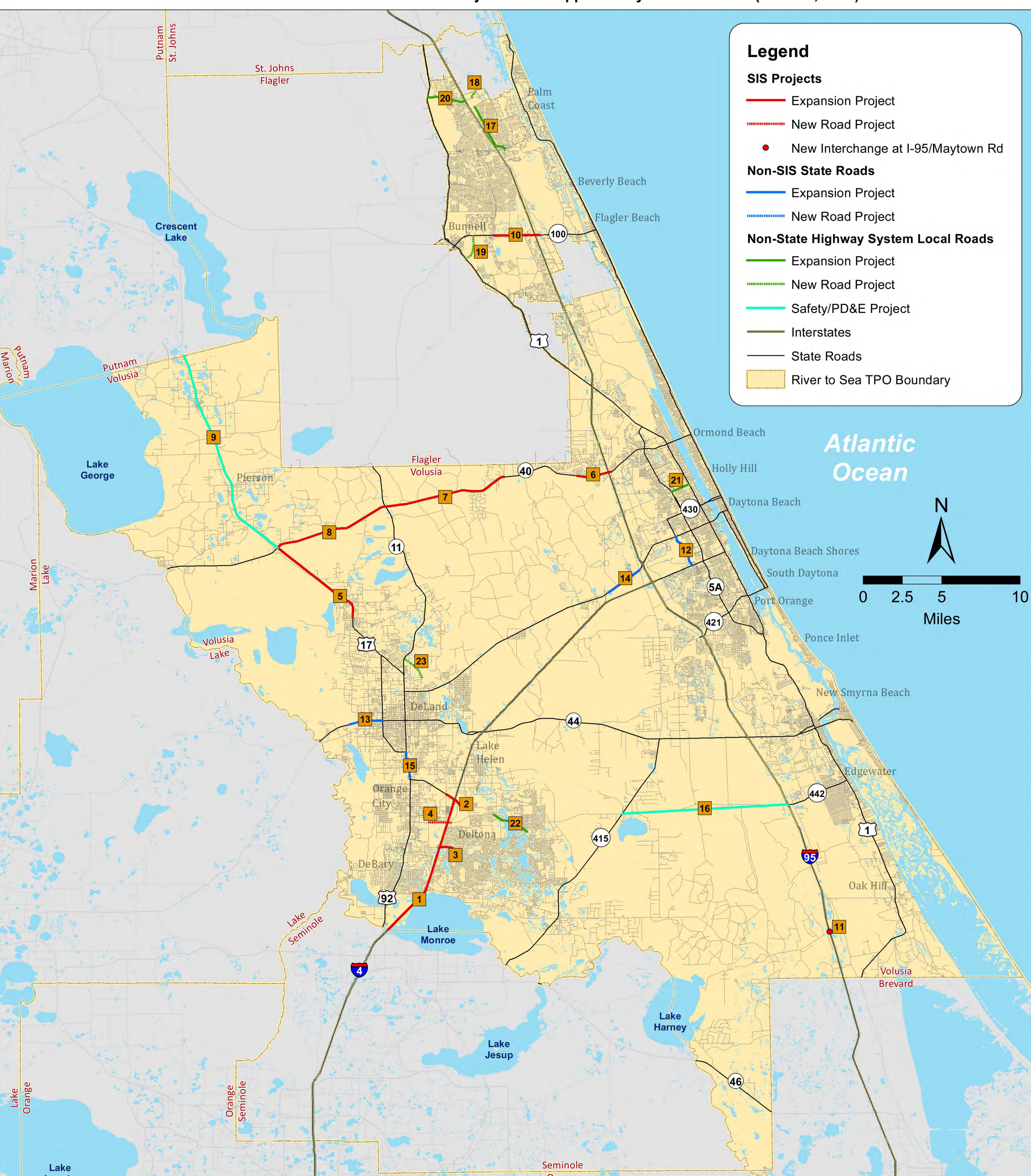
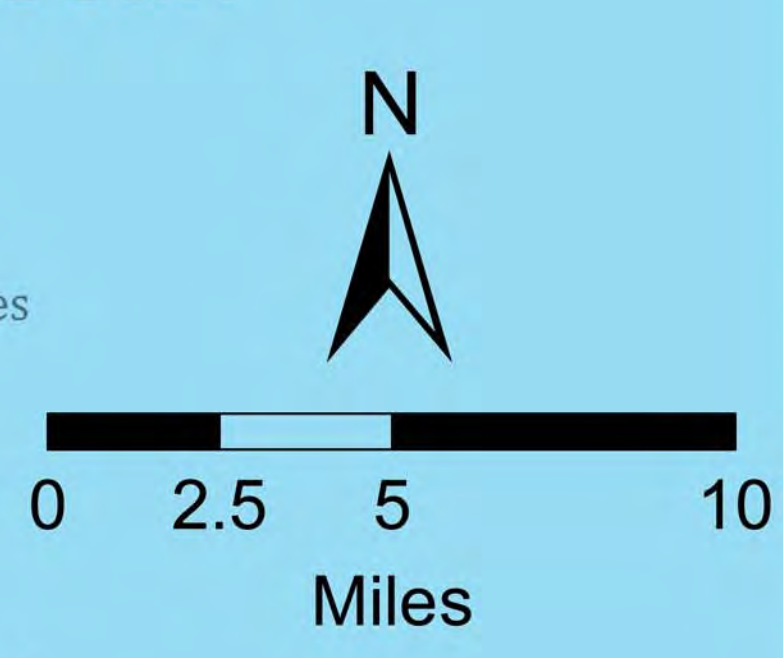
- Expansion Project
- - - - - New Road Project

Non-State Highway System Local Roads

- Expansion Project
- - - - - New Road Project
- Safety/PD&E Project

- Interstates
- State Roads

River to Sea TPO Boundary



Strategic Intermodal System (SIS) Projects				
Map Number	Project	Limits (from - to)	Est. Cost (PDC) (in millions)	Notes
1	I-4 - widen to 10 lanes (Managed Use Lanes) Part of the I-4 Beyond the Ultimate project	Seminole County to SR 472	\$510.00	Add managed-use lanes - public private partnership
2	SR 472 - widen from 4 to 6 lanes (including ramps)	Graves Ave to Kentucky/MLK Blvd	\$26.20	Road/Intersection (I-4 Beyond the Ultimate)
3	Saxon Blvd - ramp and roadway improvements	I-4 to Normandy Blvd	\$33.50	Saxon Blvd widening to 3 lanes from EB ramps terminal to Normandy Blvd (I-4 Beyond the Ultimate)
4	Rhode Island extension	Veterans Memorial to Normandy Blvd	\$15.50	Extend 2 Lane with & overpass (I-4 Beyond the Ultimate)
5	SR 15 (US 17) - widen to 4 lanes	Ponce DeLeon Blvd to SR 40	\$39.40	Construction only & includes 12 foot multi-use trail
6	SR 40 - widen to 6 lanes	Williamson Blvd. to Breakaway Trails	\$30.42	(Note: Funded in Other Arterial Category) not in FDOT's SIS Cost Feasible. Includes 12 foot multi-use trails
7	SR 40 - widen to 4 lanes	Cone Road to SR 11	\$43.80	Includes 12 foot multi-use trail
8	SR 40 - widen to 4 lanes	SR 11 to SR 15 (US 17)	\$37.90	Includes 12 foot multi-use trail
9	SR 15 (US 17) Preliminary Design and Engineering (PD&E)	SR 40 to Putnam Co. line	\$2.00	Safety study
10	SR 100 - widen to 6 lanes	Old Kings Road to Belle Terre Parkway	\$34.87	(Note: Funded in Other Arterial Category) not in FDOT's SIS Cost Feasible
11	I-95 Interchange/Maytown Rd (Farmton Interchange)	I-95 & Maytown Road	\$12.90	New interchange (\$12.9 Developer funded)
SIS Needs (Not Reflected on Cost Feasible Map)				
	I-95 Interchange /US 1 interchange modifications	at I-95 & SR 5 (US 1)	\$28.00	Interchange improvements/Safety & Capacity
	I-95 Interchange/LPGA interchange modifications	Williamson Blvd to Tymber Creek Ext	\$20.00	Interchange improvements/Safety & Capacity
	I-95 Interchange/SR 44 interchange modifications	at I-95 & SR 44	\$15.00	Interchange improvements/Safety & Capacity
	I-95 Interchange/Pioneer Trail new interchange	at Pioneer Trail	\$22.00	Interchange Justification Report (IJR) underway by FDOT

Other Arterial Projects List				
Map Number	Project	Limits (from - to)	Est. Cost (PDC) (in millions)	Total Funding Available
On System (State Roadways) Projects				
6	SR 40 - widen to 6 lanes	Williamson Blvd. to Breakaway Trails	\$30.42	\$248.20 SIS project not currently funded in FDOT's Cost Feasible Plan (Includes 12 foot multi-use trail)
10	SR 100 - widen to 6 lanes	Old Kings Road to Belle Terre Parkway	\$34.87	SIS project not currently funded in FDOT's Cost Feasible Plan
12	SR 483 (Clyde Morris Blvd) - widen to 6 lanes	SR 400 (Beville Road) to US 92	\$30.60	Construction only
13	SR 44 - Misc. upgrades to improve access to DeLand Sunrail	SR 15A to the DeLand SunRail Station	\$19.10	SR 44 Study completed
14	US 92 - widen from 4 to 6 lanes	I-4 EB Ramps to CR 415 (Tomoka Farms Rd)	\$25.08	ROW/Construction only - design completed
15	SR 600/SR 15 (US 17/92) - emerging SIS	SR 472 to SR 15A (Taylor Road)	\$35.00	Intersection/corridor improvements
16	SR 442 extend roadway (Edgewater to Deltona)	SR 442 to SR 415 - alignment not set	\$10.00	PD&E/PE
		Total Estimated Costs (PDC) On System	\$185.07	
	Local Corridor Initiatives	Balance	\$58.14	Available for On System projects; including complete streets, roundabouts, major ITS projects to improve capacity and safety
Off System Projects				
17	Old Kings Rd - widen from 2 to 4 lanes	Palm Coast Parkway to Forest Grove Dr.	\$14.85	\$60.80 Estimated Funding Available (Present Day Value): 80.00% of funding Add 2 thru lanes
18	Old Kings Rd - extension roadway (Phase II)	Matanzas Woods Pkwy to Old Kings Rd	\$5.00	New 4-lane roadway/ROW programmed \$600,000
19	Commerce Pkwy Connector Road - new 2 lane roadway	SR 100 to SR 5 (US 1)	\$4.07	Construction only finding/ROW donated/60% plans completed
20	Matanzas Woods Pkwy (west) - widen to 4 lanes	SR 5 (US 1) to Southbound I-95 ramps	\$16.03	PE completed/Design funded FY 17/18
21	LPGA - widen to 3 lanes	Nova Road to US 1	\$9.90	Improve segment to three lane section with turn lanes, improved bike and pedestrian facilities
22	Howland Blvd. - widen to 4 lanes	Providence Blvd to Elkcam Blvd.	\$13.00	Add lanes
23	North Entrance DeLand Airport (Industrial Park)	Industrial Drive to SR 11	\$1.07	New 2 lane access road
		Total Estimated Costs (PDC) - Off System	\$63.92	
		Balance	-\$3.12	Available revenue TBD based on further cost estimates

* Present Day Costs



Lake Polk
Osceola

Osceola
Brevard

Appendix 2 Study Area Entitlements

Pioneer Trail Study Area Entitlements and Percent Developed Scenarios

<u>Project Name</u>	<u>Resi DU</u>	<u>Ofc/Ret</u>	<u>Hotel</u>	<u>% Completed</u>	<u>WITHOUT INTERCHANGE</u>			<u>WITH INTERCHANGE</u>		
					<u>2022</u>	<u>2032</u>	<u>2042</u>	<u>2022</u>	<u>2032</u>	<u>2042</u>
Farmton DRI	4,692	820,217	0	0%	2%	10%	25%	5%	25%	85%
Restoration DRI	9,866	194,306	0	0%	5%	10%	25%	10%	35%	70%
Gardens 207	1,250	356,000	98	0%	20%	30%	50%	35%	50%	100%
Regency/Shoppes at Coronado PUD	0	350,000	0	40-60%	50%	100%	100%	100%	100%	100%
Venetian Bay PUD	1,823	110,000	0	40-50%	50%	100%	100%	70%	100%	100%
Hamton Village PUD	1,113	0	0	0%	20%	40%	60%	40%	80%	100%
Verano PUD	190	0	0	0%	50%	100%	100%	100%	100%	100%
Promenade Parke PUD	293	0	0	0%	50%	100%	100%	100%	100%	100%
Woodhaven PUD	1,300	650,000	0	0%	15%	35%	60%	30%	65%	100%
Pavilion at Port Orange DRI	0	800,000	0	40-60%	20%	50%	50%	50%	75%	100%
Planned Community at Westside CPA	1,082	490,000	0	40-60%	10%	40%	75%	25%	50%	100%
Willimason Vacant Lands	3,599	413,847	150	0%	5%	25%	65%	5%	50%	90%
Totals	25,208	3,770,523	248							
Avg longterm working DU absorption coun	3600									
Study Area share of countywide	0.3									
port Org, New SMY, Edgew, co. share	1080									
Years to full absorption	23.34074									

Note: Williamson vacant land estimated development based on average local density and upland availability; Fishkind & Associates, Inc.
 Source: Pioneer Trail IJR June, 2016 Table 7-1 and Fishkind & Associates, Inc.

Appendix 3 Non-Market Savings Calculations

Table E-2: Comparison of 2042 Total Entering Volumes							Difference
SR 421 @	No Pioneer Tr Interchange			Build Pioneer Tr Interchange			
	AM	PM	Total	AM	PM	Total	
Williamson Blvd	8,373	8,611	16,984	7,719	8,322	16,041	
I-95 SB Ramps	6,355	7,144	13,499	5,640	6,591	12,231	
I-95 NB Ramps	6,881	7,230	14,111	6,354	6,729	13,083	
Taylor Road	6,162	6,786	12,948	6,165	6,566	12,731	
			57,542			54,086	
							3,456

Table E-3: Comparison of 2042 Intersection Delay							Difference
SR 421 @	No Pioneer Tr Interchange			Build Pioneer Tr Interchange			
	AM	PM	Total	AM	PM	Total	
	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	
Williamson Blvd	222.2	194.4	3,534,459.0	198.3	174.8	2,985,363.3	
I-95 SB Ramps	69.7	85.5	1,053,755.5	58.2	72.8	808,072.8	
I-95 NB Ramps	57.6	49.4	753,507.6	20.5	24.7	296,463.3	
Taylor Road	27.8	34.2	403,384.8	22.4	22.2	283,861.2	
			5,745,106.9			4,373,760.6	22,855.8
Total Minutes			95,751.8			72,896.0	
Total Hours			1,595.9			1,214.9	

Table E-2: Comparison of 2032 Total Entering Volumes							Difference
SR 421 @	No Pioneer Tr Interchange			Build Pioneer Tr Interchange			
	AM	PM	Total	AM	PM	Total	
Williamson Blvd	7,645	7,862	15,507	7,048	7,598	14,646	
I-95 SB Ramps	5,681	6,386	12,067	5,042	5,892	10,934	
I-95 NB Ramps	6,151	6,463	12,614	5,680	6,180	11,860	
Taylor Road	5,659	6,232	11,891	5,662	6,566	12,228	
			52,080			49,667	
							2,412


Table E-3: Comparison of 2032 Intersection Delay							Difference
SR 421 @	No Pioneer Tr Interchange			Build Pioneer Tr Interchange			
	AM	PM	Total	AM	PM	Total	
	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	
Williamson Blvd	128.9	120.2	1,930,467.8	112.7	107.6	1,611,867.3	
I-95 SB Ramps	63.8	65.1	778,195.2	56.9	54.0	605,045.0	
I-95 NB Ramps	31.6	22.9	342,384.7	18.8	15.5	202,571.0	
Taylor Road	17.5	24.4	251,093.9	17.3	13.7	187,902.2	
			3,302,141.6			2,607,385.5	11,579.3
Total Minutes			55,035.7			43,456.4	
Total Hours			917.3			724.3	

Table E-2: Comparison of 2022 Total Entering Volumes							Difference
SR 421 @	No Pioneer Tr Interchange			Build Pioneer Tr Interchange			
	AM	PM	Total	AM	PM	Total	
Williamson Blvd	6,917	7,113	14,030	6,377	6,875	13,251	
I-95 SB Ramps	5,007	5,629	10,636	4,444	5,193	9,637	
I-95 NB Ramps	5,421	5,696	11,118	5,006	5,302	10,308	
Taylor Road	5,156	5,678	10,834	5,158	5,494	10,652	
			46,618			43,848	
							2,770

Table E-3: Comparison of 2022 Intersection Delay							Difference
SR 421 @	No Pioneer Tr Interchange			Build Pioneer Tr Interchange			
	AM	PM	Total	AM	PM	Total	
	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	Delay (sec)	
Williamson Blvd	64.7	74.9	980,314.9	60.2	59.8	794,976.0	
I-95 SB Ramps	35.3	35.7	377,687.3	34.8	31.8	319,773.1	
I-95 NB Ramps	20.4	13.1	185,218.8	15.3	11.6	138,093.6	
Taylor Road	13.9	11.5	136,965.8	8.1	8.6	89,032.0	
			1,680,186.8			1,341,874.6	5,638.5
Total Minutes			28,003.1			22,364.6	
Total Hours			466.7			372.7	

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>
Add'l Hours Delay/Day	94.0	103.9	113.8	123.7	133.6	143.5	153.4	163.3	173.2	183.1	193.0	211.8	230.6	249.4	268.2	287.0	305.8	324.5	343.3	362.1	380.9
Add'l Hours Delay/Work Day	23,494	25,969	28,445	30,920	33,395	35,870	38,346	40,821	43,296	45,772	48,247	52,945	57,644	62,343	67,041	71,740	76,438	81,137	85,835	90,534	95,232
Gallons of gas used idling	7,048	7,791	8,533	9,276	10,019	10,761	11,504	12,246	12,989	13,731	14,474	15,884	17,293	18,703	20,112	21,522	22,931	24,341	25,751	27,160	28,570
Pounds of Carbon Exhaust	137,890	152,418	166,947	181,475	196,003	210,531	225,059	239,587	254,115	268,643	283,171	310,748	338,324	365,901	393,478	421,054	448,631	476,208	503,785	531,361	558,938
Add'l Carbon Exhaust (metric tons)	62.5	69.1	75.7	82.3	88.9	95.5	102.1	108.7	115.2	121.8	128.4	140.9	153.4	165.9	178.4	191.0	203.5	216.0	228.5	241.0	253.5
Cost of Additional Carbon	\$2,064	\$2,281	\$2,499	\$2,716	\$2,933	\$3,151	\$3,368	\$3,586	\$3,803	\$4,021	\$4,238	\$4,651	\$5,063	\$5,476	\$5,889	\$6,301	\$6,714	\$7,127	\$7,540	\$7,952	\$8,365
Cost of Delay	\$436,986	\$483,027	\$529,068	\$575,109	\$621,149	\$667,190	\$713,231	\$759,271	\$805,312	\$851,353	\$897,393	\$984,786	\$1,072,179	\$1,159,572	\$1,246,965	\$1,334,358	\$1,421,751	\$1,509,144	\$1,596,537	\$1,683,929	\$1,771,322
Gallons of gas per hour idling	0.3	(Office of Energy Efficiency & Renewable Energy)																			
Conversion to metric tons	2,205																				
Metric ton of CO2 Cost	\$33.00																				
Lbs of CO2 per gallon of gasoline	19.564																				
Average Hourly Wage & Salary	\$18.60																				
Annual wage div by hours/yr=hourly wage (QCEW 2015)	37196(8*5*50)																				
		2022	2032	2042																	
Time Delay		\$436,986	\$897,393	\$1,771,322																	
Pollution		\$2,064	\$4,238	\$8,365																	
Safety		-NA-	-NA-	-NA-																	
Non Market Goods		\$439,050	\$901,631	\$1,779,687																	

Appendix B
Methodology Letter of Understanding



JULY 2014

METHODOLOGY LETTER OF UNDERSTANDING (MLOU)

Interstate-95 at Pioneer Trail Interchange Justification Report (IJR)

Volusia County, Florida




I-95 @ PIONEER TRAIL IJR

SIGNATURE BLOCK

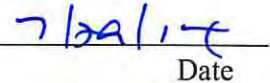
Full compliance with all MLOU requirements does not obligate the Acceptance Authorities to accept/approve the interchange access request.



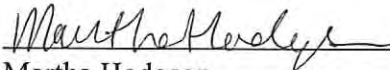
Gerald Brinton
Requestor - Volusia County Engineer


Date

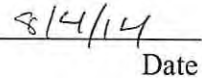
Gregory A. Kisela
Co-Requestor – Manager, City of Port Orange


Date

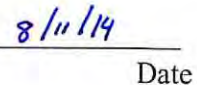
John Zielinski
FDOT District Five – Interchange Administrator


Date

Martha Hodgson
FDOT Central Systems Planning Office


Date

Nicholas Finch
FHWA – Associate Divisional Administrator


Date

Florida Department of Transportation Interchange Access Request

Methodology Letter of Understanding (MLOU)

Type of request: IJR IMR IOAR

Coordination of assumptions, procedures, data, networks, and outputs for project traffic review during the access request process will be maintained throughout the evaluation process.

Full compliance with all MLOU requirements does not obligate the Acceptance Authorities to accept the Interchange Access Request (IAR).

1.0 Project Description

Provide background or supporting information that explains the basis for the request.

A. Purpose and Need Statement

Provide the Purpose, the Need, and the Goals and Objectives.

The proposed I-95 and Pioneer Trail interchange is intended to reduce traffic congestion, enhance regional mobility, and provide a viable alternative for emergency evacuations while enhancing economic development opportunities in southern Volusia County.

Traffic Congestion

There are a significant amount of development plans identified within Volusia County and the cities of Port Orange and New Smyrna Beach that will place a major burden on the regional roadway system including the adjacent interchanges of SR 421 and SR 44. SR 421 to the north is currently operating at or near capacity with extended queues during the peak hours and is constrained in terms of possible improvements for the existing interchange configuration. The SR 44 interchange to the south is saturated and also identified as one of the highest crash locations in the county. The new interchange at Pioneer Trail is an ideal location to relieve the existing operational conditions at SR 421 interchange and serve as an alternative to SR 44 interchange in the future. The capacity needs along I-95 are being addressed in the ongoing widening project of I-95.

Regional Transportation Need

The I-95/Pioneer Trail interchange is included in the Cost Feasible Roadway Projects identified in the 2025 Volusia County Long Range Transportation Plan (LRTP) and the

Volusia County 2035 LRTP Needs Plan. Several studies were conducted previously demonstrating the importance and need for the Pioneer Trail interchange. The "Pioneer Trail Feasibility Study" conducted in 2005 concluded that the proposed interchange at Pioneer Trail would serve the regional trips and will not have any adverse impacts on mainline operations and the new interchange would alleviate traffic on the adjacent interchanges. The need for the Pioneer Trail interchange is also studied as part of an alternate corridor evaluation in the "SR 421/I-95 Interchange Analysis" study conducted by the City of Port Orange which concluded that the Pioneer Trail interchange would relieve the critical SR 421 interchange.

Emergency Evacuation

Pioneer Trail contributes to the regional network and provides direct and in-direct connections to all the major arterials in the surrounding area, SR 421 to the north, US 1 to the east, SR 44 to south, Tomoka Farms Road to the west, and I-4 using SR 44 to the west. An interchange at Pioneer Trail would provide an easily accessible interchange termini and address the need for improved evacuation capacity to the area which has experienced its share of storm activity in recent years prompting a heightened desire from the general public to develop an alternative emergency evacuation route. This additional evacuation route could save valuable time for evacuating residents by providing additional access to the interstate system linkage.

Economic Development

The County's long term planning and commitment for development on the west side of the City of Port Orange is evident with the development projects identified in the Year 2035 LRTP and the development plans identified in the City of Port Orange and New Smyrna Beach future land use plans. Economic development potential will be enhanced in the vicinity of the Pioneer Trail corridor by the increased access provided by the proposed interchange.

B. Project Location

Provide a description and map of the IAR study area.

The portion of I-95 included in the study is in FDOT Section #7900200. The proposed interchange of Pioneer Trail is located at the milepost 19.035, approximately 2.7 miles north of the existing interchange at SR 44, and 4.3 miles south of the SR 421 interchange. Pioneer Trail (CR 4118) is a two-lane rural design type corridor extending between SR 44 and US 1. Pioneer Trail is classified as a major rural collector to the west of Tomoka Farms Road and major urban collector to the east through I-95. Pioneer Trail road to the east of I-95 changes its orientation to southeast serving several residential developments. Figure 1 depicts the project location and the anticipated area of influence of the proposed interchange.

Exhibit/Figure # 1

C. Area of Influence

Provide a description of the Area Of Influence (AOI) along the main line and cross street.

Along mainline: Consistent with the Interchange Handbook guidelines, the Area Of Influence (AOI) for the proposed interchange along the limited access facility (I-95) must include at a minimum one adjacent interchange in each direction. There are no foreseen developments surrounding the proposed interchange at Pioneer Trail that would impact sections of I-95 beyond the first adjacent interchange in either direction. Therefore, the proposed area of influence will extend approximately 7.0 miles along I-95 from SR 421 to SR 44. For this project the following interchanges (ramps and weaving areas) will be included in the AOI:

- I-95 and SR 421
- I-95 and Pioneer Trail (Proposed Interchange)
- I-95 and SR 44

Along crossroads: The Interchange Handbook indicates the AOI for the crossroads should normally extend up to one-half mile or the first signalized intersection in both directions of the proposed new and existing adjacent interchanges. Consistent with the Interchange Handbook guidelines, the proposed AOI for the crossroads includes:

- SR 421 between Summer Tress Road and Clyde Morris Boulevard

- Pioneer Trail between Airport Road and Sugar Mill Drive
- Turnbull Bay Road between Pioneer Trail and Shadow Pines Drive
- SR 44 between Tomoka Farms Road and Sugar Mill Drive

Exhibit/Figure # 2

D. Project Schedule

Identify the schedule of production activities consistent with a proposed conceptual funding plan and opening year.

I-95 and Pioneer Trail Interchange is identified in the 2035 Volusia County LRTP as part of the adopted needs plan. No funding has been identified at this time. A conceptual funding plan and schedule will be included in the IJR.

2.0 Analysis Years

A. Traffic Forecasting

- Base year 2005
- Horizon year 2035

B. Traffic Operational Analysis

- Existing year 2013
- Opening year 2022
- Interim year(s) 2032
- Design year 2042

3.0 Alternatives To be Considered

Alternatives		Year of Analysis			
		<i>Existing</i>	<i>Opening</i>	<i>Interim</i>	<i>Design</i>
No Build		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Build	Preferred Alternative	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Other Alternatives	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- A. Requester has developed specific alternative(s) at this point and the alternative(s) are described below.

At least two design concepts will be studied for the proposed interchange at Pioneer Trail. These concepts will be developed and evaluated in the interchange justification study to assess their viability and determine any fatal flaws for further development.

- B. Build alternatives that were eliminated from consideration or evaluated under prior studies and discarded will be documented as to why they were not carried forward.

Prior studies did not recommend or evaluate any alternative design concepts.

4.0 Data Collection

The type of data that may be used should be identified.

- A. *Transportation System Data*

FDOT Straight-Line Diagrams (SLDs), Roadway Characteristic Inventory (RCI) and field observations will be used.

- B. *Existing and Historical Traffic Data*

Existing traffic counts, AADT data, and classification counts will be obtained for all roadway systems within the AOI from the FDOT Traffic Information DVD. Other sources of data include 24-hour traffic counts, 72-hour classification counts, turning movement counts, and traffic counts from local agencies. Additional field data will be collected as needed for the study. Traffic counts will be verified for consistency with nearby studies currently underway.

- C. *Land Use Data*

The current land uses within the AOI will be identified through field reviews and aerial photography. Approved land uses and densities within the AOI will be collected from local agencies. Further, comprehensive plans and future land use maps will be verified and used in the IJR analysis.

D. Environmental Data

The Department will utilize the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) and run a GIS analysis to identify the natural, social and cultural resources within the AOI. The Department will provide a preliminary discussion of the resources.

E. Planned and Programmed Projects

- I-95 widening to 6-lanes will be included in the alternatives
- I-95 at SR 421 interchange improvements as part of I-95 widening project.

Local Projects

- Airport Road widen to four lane road between Sabal Creek Boulevard and Pioneer Trail
- Williamson Boulevard extend at four-lane road between Airport Road and Pioneer Trail
- Williamson Boulevard extend as two-lane road between Pioneer Trail and south of SR 44

5.0 Travel Demand Forecasting

A. Selected Travel Demand Model(s)

The FDOT adopted 2035 Central Florida Regional Planning Model (CFRPM Version 5.01) which reflects all MPO/TPO cost feasible projects in the Central Florida region will be used for travel demand forecasts.

B. Project Traffic Forecast Development Methodology

Describe the methodology and assumptions in developing the future year traffic volumes (AADT and DDHV)

Methodology for developing project traffic forecasts will be consistent with the Project Traffic Forecasting Handbook (2014). Land use data within the area of influence will be reviewed and modified as necessary. Traffic Analysis Zone (TAZ) structure will be reviewed for accuracy and the centroid connectors will be examined and adjusted if necessary to ensure proper loading onto the roadways. The Model will be verified to

represent planned and programmed improvements. ZDATA will be interpolated for model years as necessary.

AADT's obtained from the model will be compared with historic trends, population studies (BEBR) and other studies in the project area to ensure reasonableness.

The development of Directional Design Hour Volumes (DDHV) will be based on the conversion of the AADT by Standard K and D factors. Turns5 spreadsheet software will be used to estimate a.m. and p.m. peak hour turning movement volumes for the study intersections.

C. Validation Methodology

Describe the methodology using current FDOT procedures in data collection procedure

The sub area model will be validated for year the 2010 conditions utilizing latest 2010 data available from FDOT and traffic volumes from the FTI DVD. The sub-area validation procedure will meet the requirements of the FSUTMS Model Update Task Force. This procedure is consistent with Section 3.8.2 of 2014 Project Traffic Forecasting Handbook (Figures 3.3 and 3.4) and the FSUTMS-Cube Framework Phase II Model Calibration and Validation Standards dated October 2, 2008.

Identify how modifications to the travel demand forecasting model will be made, including modifications to the facility type and area type for links, modifications to socio-economic data and all input and output modeling files for review.

Following the model validation guidelines, adjustments will be made to the network parameters (facility type, speed, capacity, centroid connectors, etc.) to achieve acceptable validation standards. Any adjustments made to the model network, zonal structure changes, and model parameters will be documented in the IJR and applied to all future year models.

D. Adjustment Procedures

Identify the process used to adjust modeled future year traffic to the defined analysis years. Discuss how trends/growth-rates will be factored into this.

AADTs

The model generated future year traffic will be converted from Peak Season Weekday average Daily Traffic (PSWADT) to AADT using Model Output Conversion Factor (MOCF). A matrix will be created to compare year 2035 model AADT's with historic trend projections, regional population growth rates, and any recently completed studies. Based on the comparison, growth rates for individual corridors and future year AADTs will be developed using linear growth projection method. The recommended growth rate will be utilized to derive design year AADTs. The IJR will document in detail the traffic forecasting procedure applied for the study, model validation and adjustments, development of AADTs, DDHVs and turning movement volumes.

E. Traffic Factors

- Utilizing recommended ranges identified in the Project Traffic Forecasting Handbook and Procedure (525-030-120).
- Utilizing other factors, identified below

Roadway	K	D	T	T _f	PHF	MOCF
I-95	0.9	55.0%	13.9%	7.0%	0.95	0.98
SR 421	0.9	61.0%	3.5%	2.0%	0.95	0.95
SR 44	0.9	61.0%	6.2%	3.1%	0.95	0.95
Pioneer Trail	0.9	52.9%	2.6%	1.5%	0.95	0.95

Source: FTI 2013, and Volusia County

6.0 Traffic Operational Analysis

The area type, traffic conditions, and analysis tools to be used are summarized in this section.

A. Existing Area Type/Traffic Conditions

Area Type	Conditions (Future Conditions)	
	<i>Under-saturated</i>	<i>Saturated</i>
Rural	<input type="checkbox"/>	<input type="checkbox"/>
Urban Areas/Transitioning Urbanized Areas	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Urbanized Areas/Central Business District (CBD)	<input type="checkbox"/>	<input type="checkbox"/>

I-95 at SR 421 interchange operates at saturated traffic conditions and SR 44 corridor at under-saturated during the existing year 2013. We expect similar operating conditions during the future years.

B. Traffic Analysis Software Used

Software		System Component					
		Freeways				Cross Road	
Name	Version	Basic Segment	Weaving	Ramp Merge	Ramp Diverge	Arterials	Intersections
LOSPLAN		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HCS/HCM	2010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Synchro	8.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SimTraffic		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Corsim		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vissim		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. Calibration

- Calibration methodology and parameters utilized will be documented. Any deviations will be justified.

SYNCHRO 8.0 software will be utilized for signalized and unsignalized intersections analysis, and traffic signal timing optimization. SYNCHRO link based simulation settings, lane alignment, turning speed, headway factor, and mandatory and positioning distance will be adjusted as necessary to replicate field conditions and as input to SimTraffic. SimTraffic global parameters for calibration, vehicle composition, gap acceptance, speed factor will be adjusted to validate the model for input volumes and measured queue lengths at critical intersections. FDOT Traffic Analysis Handbook, March 2014 guidelines will be followed for calibration targets, and conducting number of simulation runs.

D. Selection of Measures of Effectiveness (MOE)

- The Level of Service criteria for each roadway classification, including mainline, ramps, ramp terminal intersections and the cross road beyond the interchange ramp terminal intersections are identified below.

Adopted Level of Service Criteria

	Mainline/Roadway	Ramps/Intersections
I-95	D	D
SR 421	D	D
SR 44	D	D
Pioneer Trail	E	E

MOEs such as Delays, V/C ratios, speed, density, and queue lengths obtained from SYNCHRO and HCS software will be documented in the IJR. SimTraffic network MOEs, total delay, average speed, total travel time will be summarized. Arterial MOEs as speed and delay will also be reported.

- *In addition to the Level of Service criteria, state other operational criteria to be utilized for the evaluation of alternatives.*

Queue lengths will be reported based on 95th Percentile Queue Lengths from Synchro 8.0. Queuing analysis will evaluate for additional turn lanes to restrict queues from extending into mainline I-95.

7.0 Safety Analysis

- A. *Detailed crash data within the study area will be analyzed and documented.*

Years: 2010-2013

Source: FDOT CARS database, Signal4Analytics, and local agencies

- B. *Additional safety analysis tools or procedure may be used to analyze the safety performance as outlined below.*

Additional safety analysis tools may be used as needed.

8.0 Consistency with Other Plans/Projects

- A. *The request will be reviewed for consistency with facility Master Plans, Actions Plans, SIS Plan, MPO Long Range Transportation Plans, Local Government Comprehensive Plans or development applications, etc.*

The proposed interchange is included in the Volusia County Year 2035 LRTP Needs Plan and local agency comprehensive plans.

- B. *Where the request is inconsistent with any plan, steps to bring the plan into consistency will be developed.*

This interchange access request is consistent with the local agencies plans.

- C. *The operational relationship of this request to the other interchanges will be reviewed and documented. The following other IARs are located within the area of influence.*

There are no access requests underway within the AOI.

9.0 Environmental Considerations

- A. *Status of Environmental Approval and permitting process.*

Environmental and permitting process will be studied as part of a PD&E study.

- B. *Identify the environmental considerations that could influence the outcome of the alternative development and selection process.*

Interchange Access Request document for the proposed interchange will identify any known natural resource or physical impacts that could be fatal flaw or result in substantial mitigation efforts. The types of natural resource and physical impacts that will be assessed include wetlands, essential fish habitat, water quality, wildlife, habitat, farmlands, noise, air quality, construction impacts, and contamination. The report will also identify any existing known cultural impacts including public lands, noise sensitive sites, historical or archaeological sites, impacts to neighborhoods, or any other cultural factors. An internal ETDM screening was conducted for the proposed interchange area but the project is not registered at this stage. IJR will include the ETDM screening summary and the project identification details.

10.0 Coordination

Yes	No	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	An appropriate effort of coordination will be made with appropriate proposed developments in the area.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request will identify and include (if applicable) a commitment to complete the other non-interchange/non-intersection improvements that are necessary for the interchange/intersection to function as proposed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Request will document whether the project requires financial or infrastructure commitments from other agencies, organizations, or private entities.

- Request will document any pre-condition contingencies required in regards to the timing of other improvements and their inclusion in a TIP/STIP/LRTP prior to the Interstate access acceptance (final approval of NEPA document).
- Request will document the funding and phasing.

11.0 Anticipated Design Exceptions and Variations

- Design exceptions/variations are not anticipated, but if an exception/variation should arise it will be processed per FHWA and FDOT standards.
- The following exceptions/variations to FDOT, AASHTO or FHWA rules, policies, standards, criteria or procedures have been identified:

The FDOT spacing requirement between the adjacent interchange is 3 miles for this area type. The actual distance of the proposed interchange from the SR 44 interchange to the south is 2.7 miles. This variation request was discussed with FDOT and FHWA at the February 25, 2014 Kick-off meeting and was granted by FDOT Central Office. Operational analysis will be documented in the IJR.

12.0 Conceptual Signing Plan

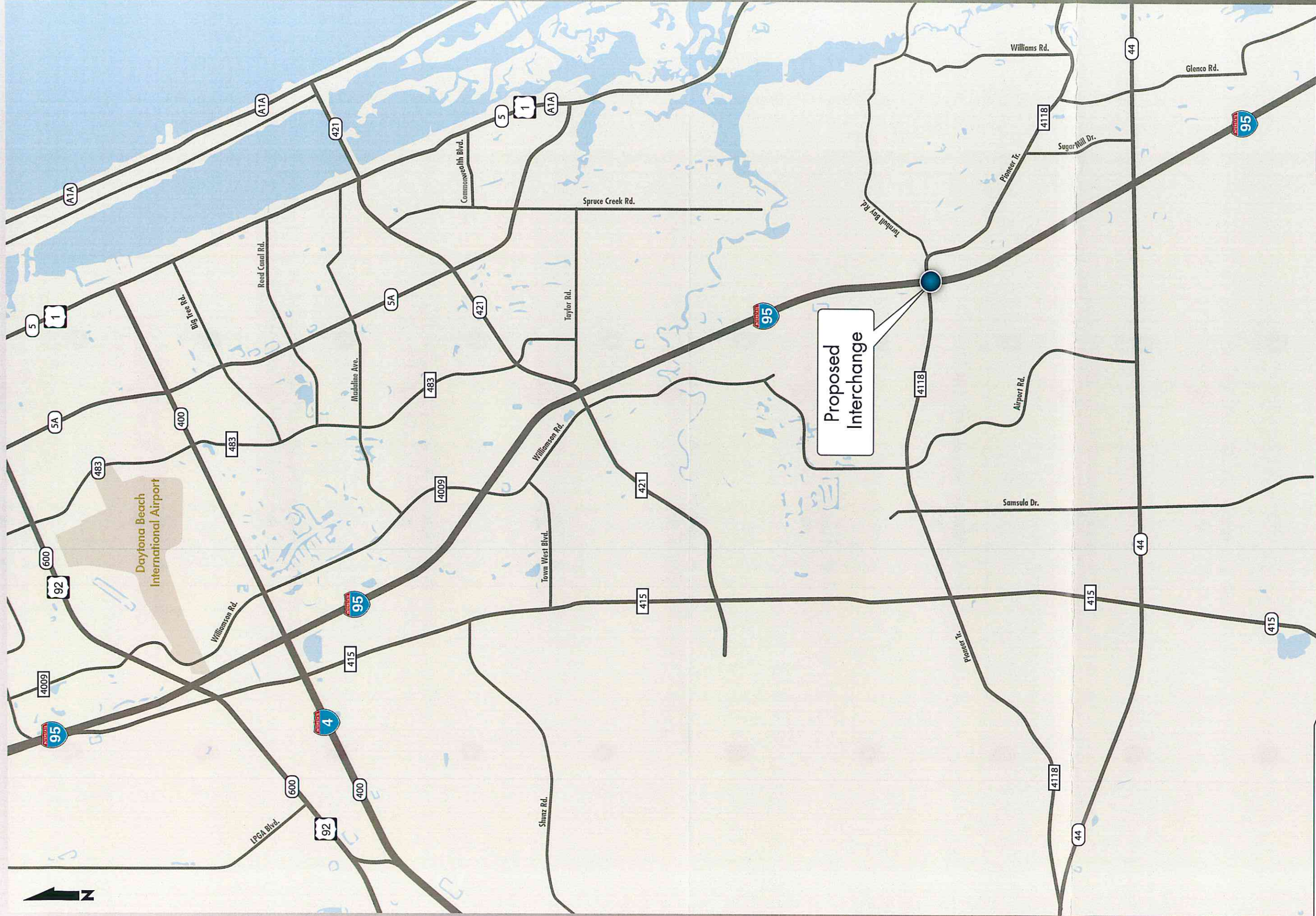
A conceptual signing and marking plan shall be prepared and included.

13.0 Access Management Plan

An access management plan may be developed within the area of influence to complement the improvements to the interchange.

14.0 FHWA Policy Points

The FHWA 8 Policy Points will be addressed within the request.



DATE CREATED: 1/28/2014

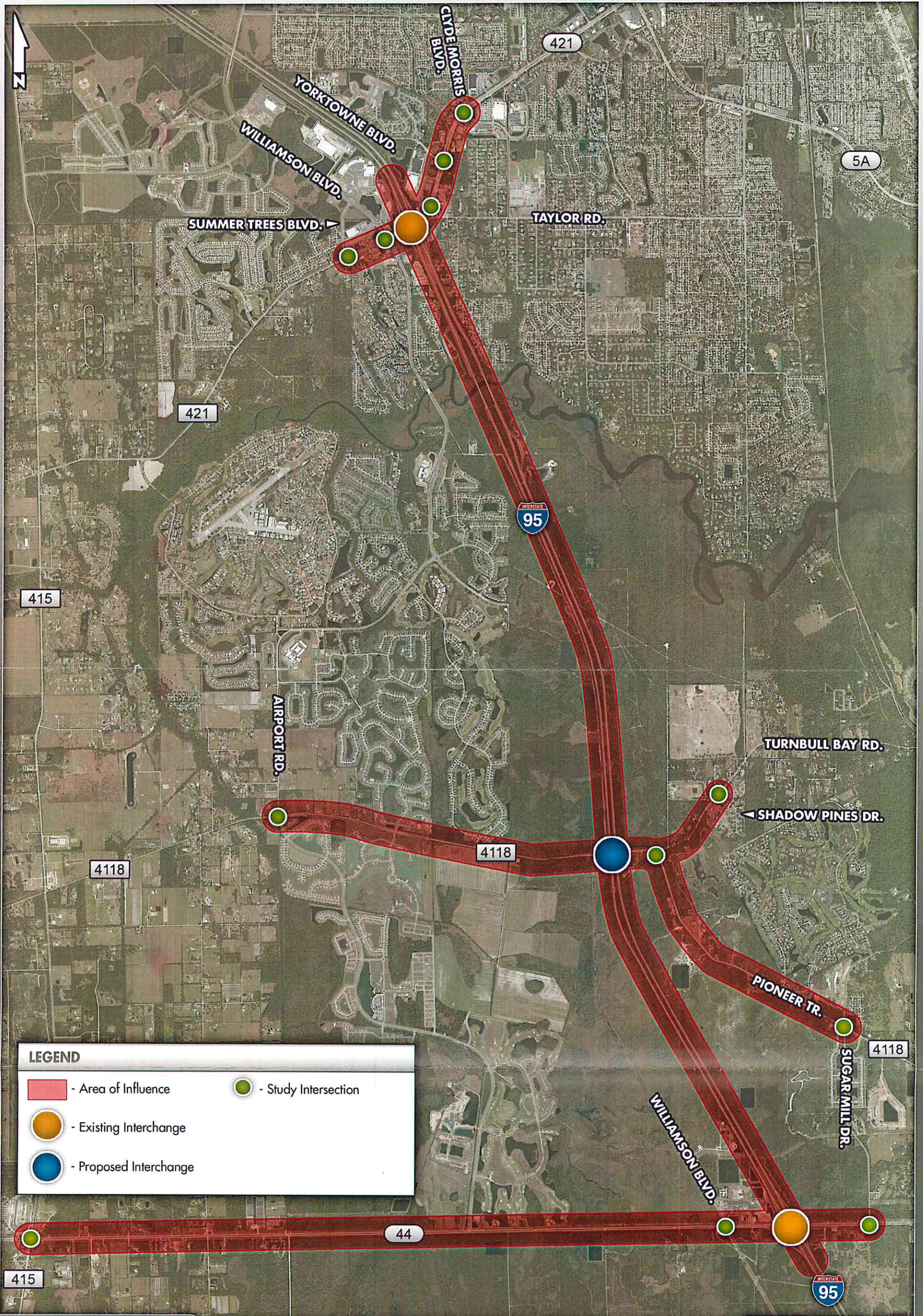
PROJECT NUMBER: 12-097.01

Pioneer Trail Interchange Justification Report
Volusia County

Study Area



DATE CREATED: 1/28/2014 PROJECT NUMBER: 12-097.01



LEGEND

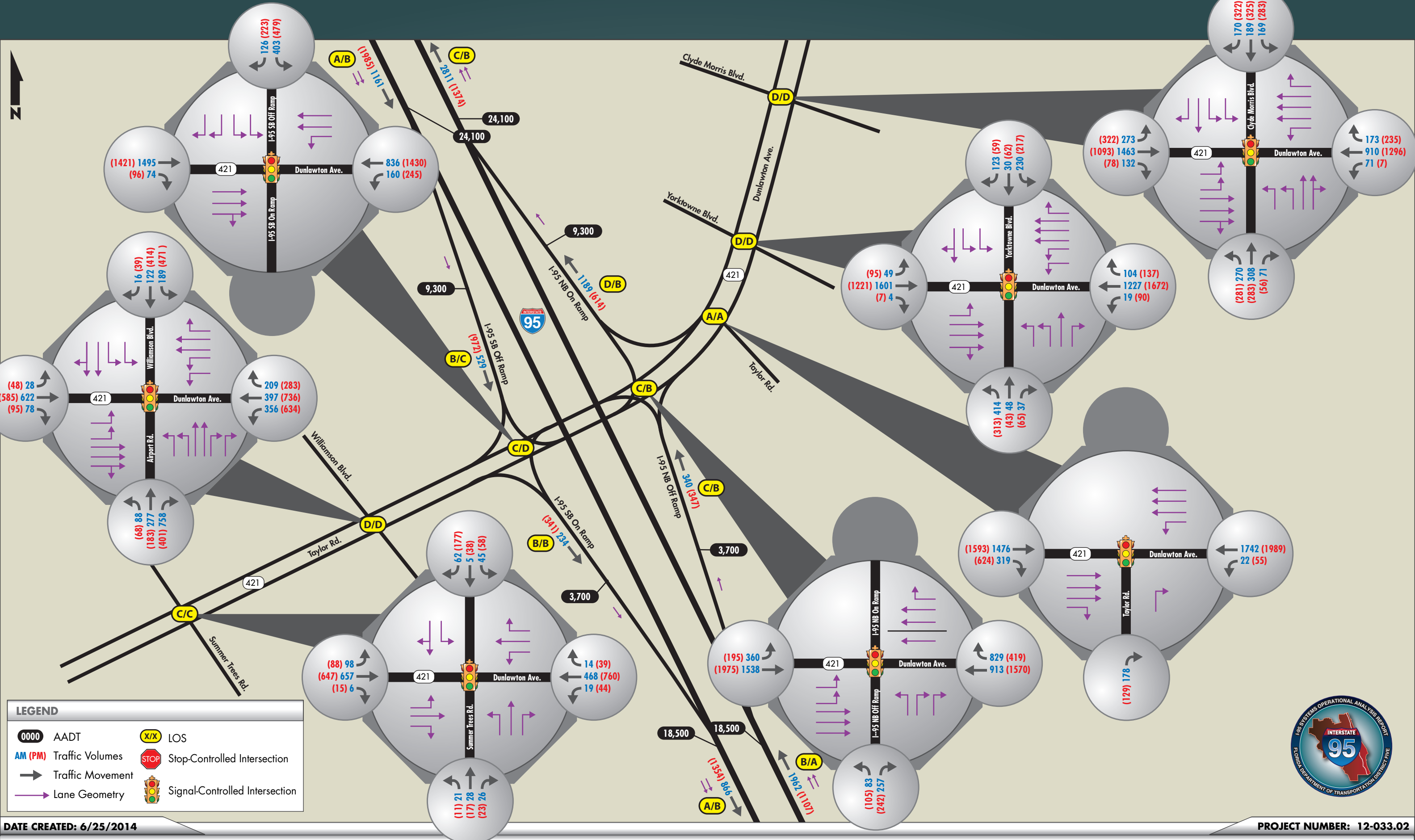
- Area of Influence
- Existing Interchange
- Proposed Interchange
- Study Intersection

DATE CREATED: 1/28/2014

PROJECT NUMBER: 12-097.01

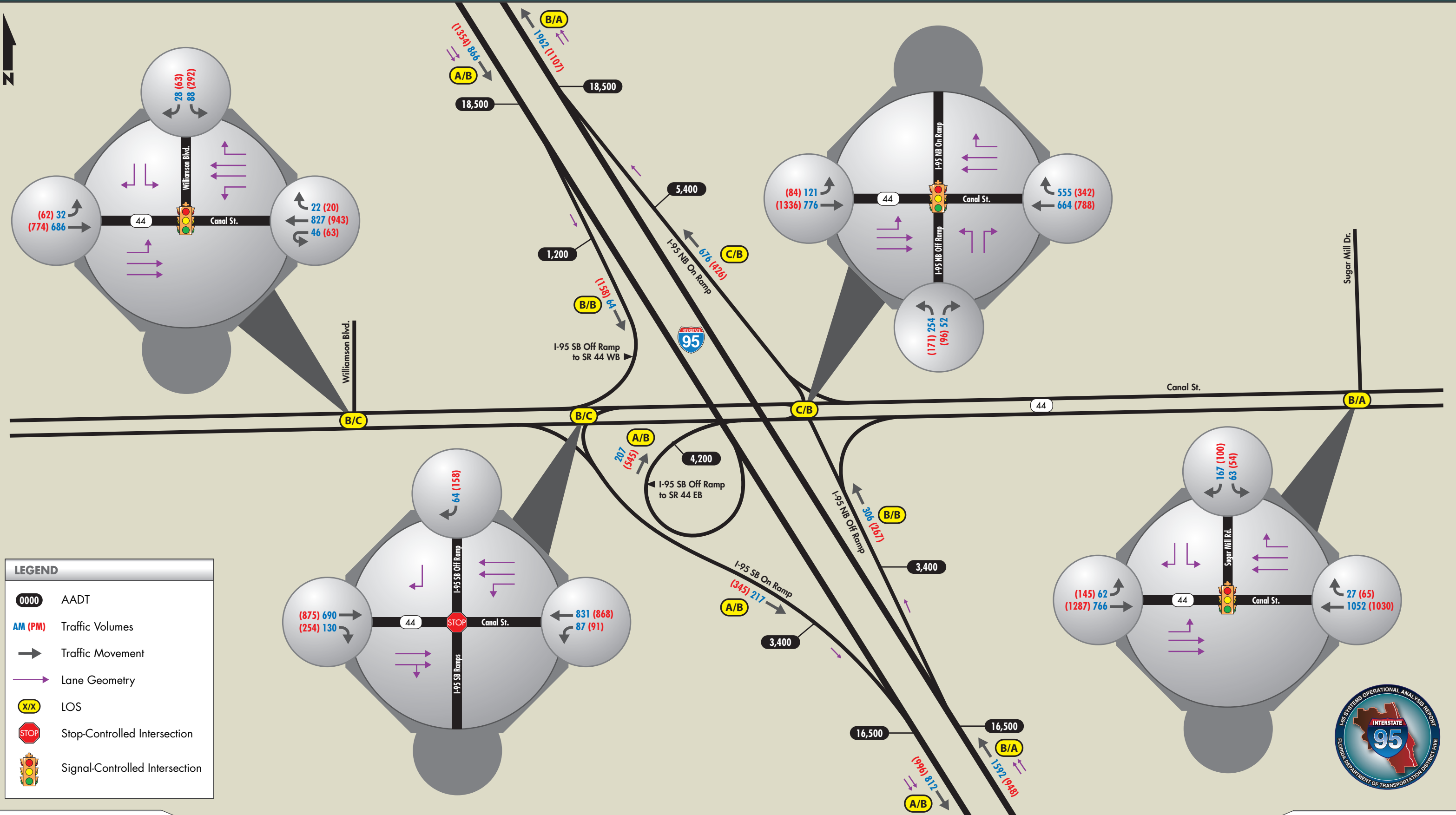
Appendix C

Raw Traffic Counts



I-95 Systems Operational Analysis Report (SOAR)

FIGURE 18-3
I-95 at SR 421 (Dunlawton Avenue) / Taylor Road



DATE CREATED: 6/25/2014

PROJECT NUMBER: 12-033.02

I-95 Systems Operational Analysis Report (SOAR)

FIGURE 17-3
I-95 at SR 44 (Canal Street)

Roadway Count Summary

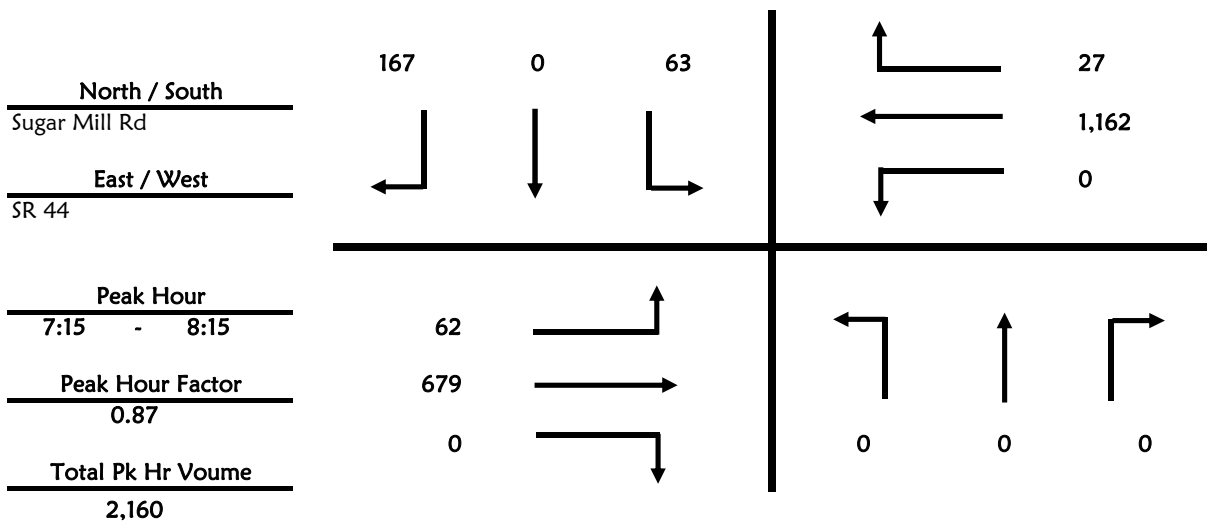
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Sugar Mill Rd & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	12	0	29
7:15 - 7:30	0	0	0	17	0	47
7:30 - 7:45	0	0	0	15	0	54
7:45 - 8:00	0	0	0	14	0	38
8:00 - 8:15	0	0	0	17	0	28
8:15 - 8:30	0	0	0	21	0	19
8:30 - 8:45	0	0	0	14	0	32
8:45 - 9:00	0	0	0	6	0	25
	0	0	0	116	0	272

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	15	176	0	0	257	4
7:15 - 7:30	12	142	0	0	282	4
7:30 - 7:45	18	195	0	0	338	3
7:45 - 8:00	17	177	0	0	275	9
8:00 - 8:15	15	165	0	0	267	11
8:15 - 8:30	9	163	0	0	266	7
8:30 - 8:45	15	182	0	0	273	15
8:45 - 9:00	29	185	0	0	218	14
	130	1,385	0	0	2,176	67



Roadway Count Summary

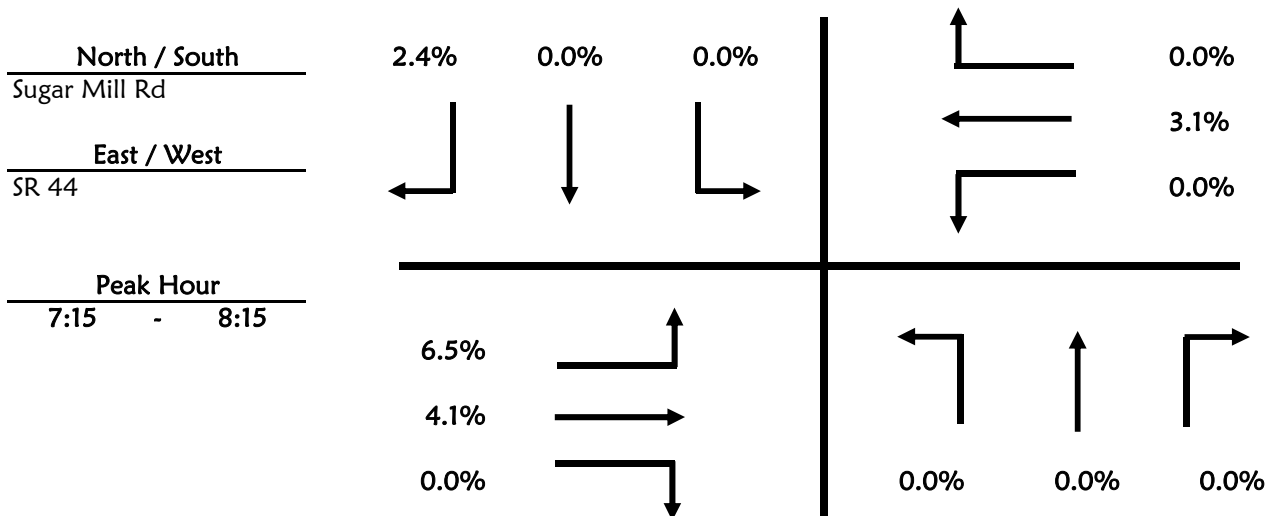
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Rd & SR 44
 Date April 16, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	1
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	3
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	1
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	5	0	0	2	0
7:15 - 7:30	0	7	0	0	5	0
7:30 - 7:45	1	7	0	0	14	0
7:45 - 8:00	0	5	0	0	10	0
8:00 - 8:15	3	9	0	0	7	0
8:15 - 8:30	0	12	0	0	15	0
8:30 - 8:45	1	10	0	0	5	0
8:45 - 9:00	2	5	0	0	9	0



Roadway Count Summary

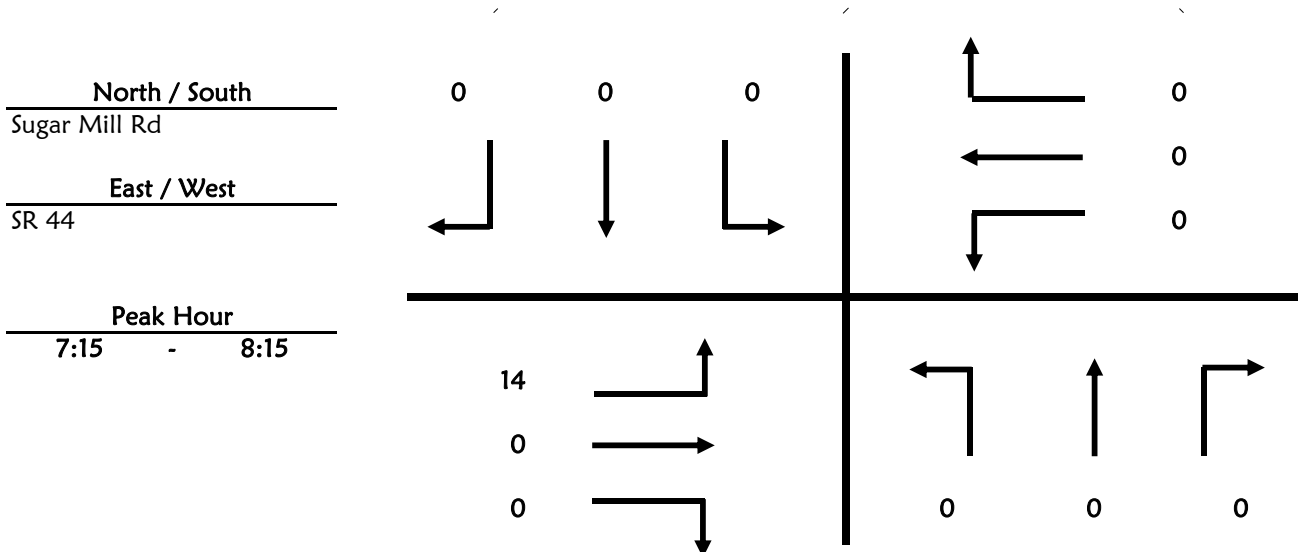
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Rd & SR 44
 Date April 16, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	0	0	0	0	0
7:15 - 7:30	2	0	0	0	0	0
7:30 - 7:45	3	0	0	0	0	0
7:45 - 8:00	6	0	0	0	0	0
8:00 - 8:15	3	0	0	0	0	0
8:15 - 8:30	3	0	0	0	0	0
8:30 - 8:45	4	0	0	0	2	0
8:45 - 9:00	6	0	0	0	4	0



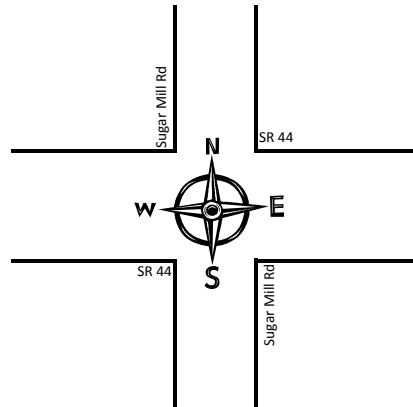
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/16/2014

NB/SB: Sugar Mill Rd
 EB/WB: SR 44

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike				1					1
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

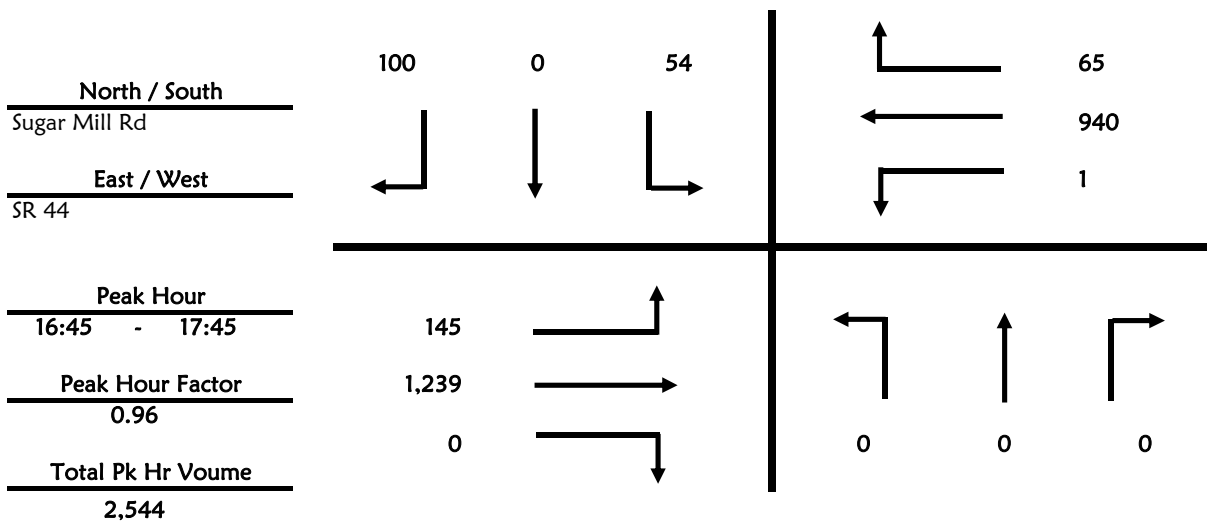
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Sugar Mill Rd & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	13	0	22
16:15 - 16:30	0	0	0	13	0	20
16:30 - 16:45	0	0	0	15	0	16
16:45 - 17:00	0	0	0	13	0	29
17:00 - 17:15	0	0	0	13	0	23
17:15 - 17:30	0	0	0	19	0	18
17:30 - 17:45	0	0	0	9	0	30
17:45 - 18:00	0	0	0	17	0	16
Total	0	0	0	112	0	174

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	38	233	0	0	284	18
16:15 - 16:30	35	222	0	0	194	14
16:30 - 16:45	26	252	0	0	275	19
16:45 - 17:00	39	291	0	0	215	15
17:00 - 17:15	27	297	0	1	246	17
17:15 - 17:30	37	342	0	0	229	12
17:30 - 17:45	42	309	0	0	250	21
17:45 - 18:00	37	261	0	1	195	9
Total	281	2,207	0	2	1,888	125



Roadway Count Summary

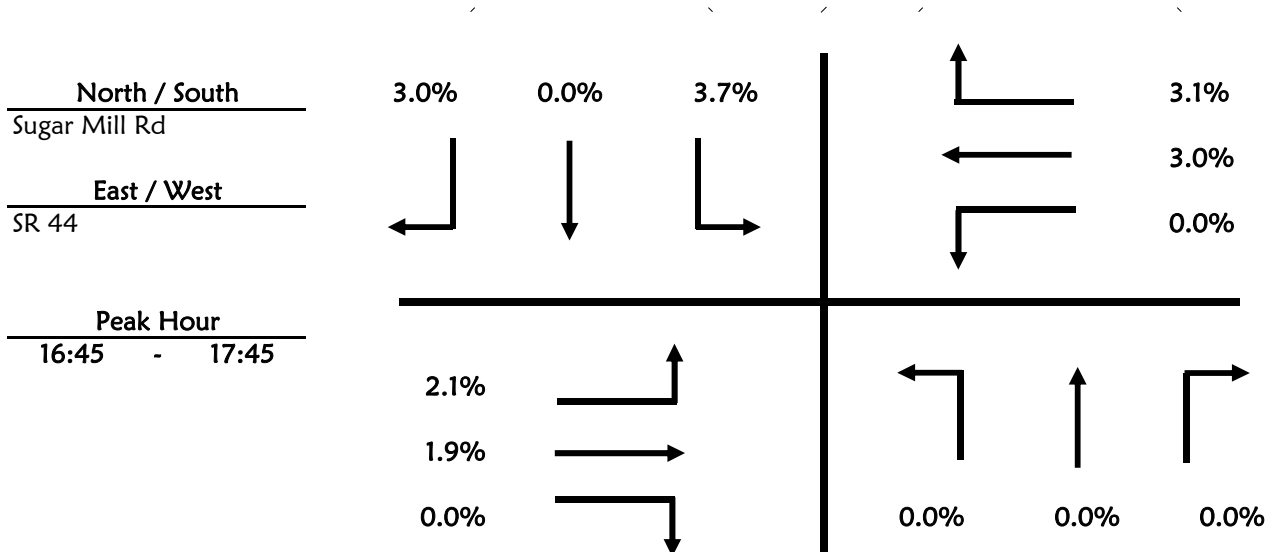
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Rd & SR 44
 Date April 16, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	1
16:15 - 16:30	0	0	0	1	0	1
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	1	0	2
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	1	0	1
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	6	0	0	8	0
16:15 - 16:30	1	4	0	0	9	1
16:30 - 16:45	1	10	0	0	2	0
16:45 - 17:00	1	6	0	0	10	2
17:00 - 17:15	1	8	0	0	11	0
17:15 - 17:30	0	7	0	0	3	0
17:30 - 17:45	1	2	0	0	4	0
17:45 - 18:00	1	10	0	0	3	0



Roadway Count Summary

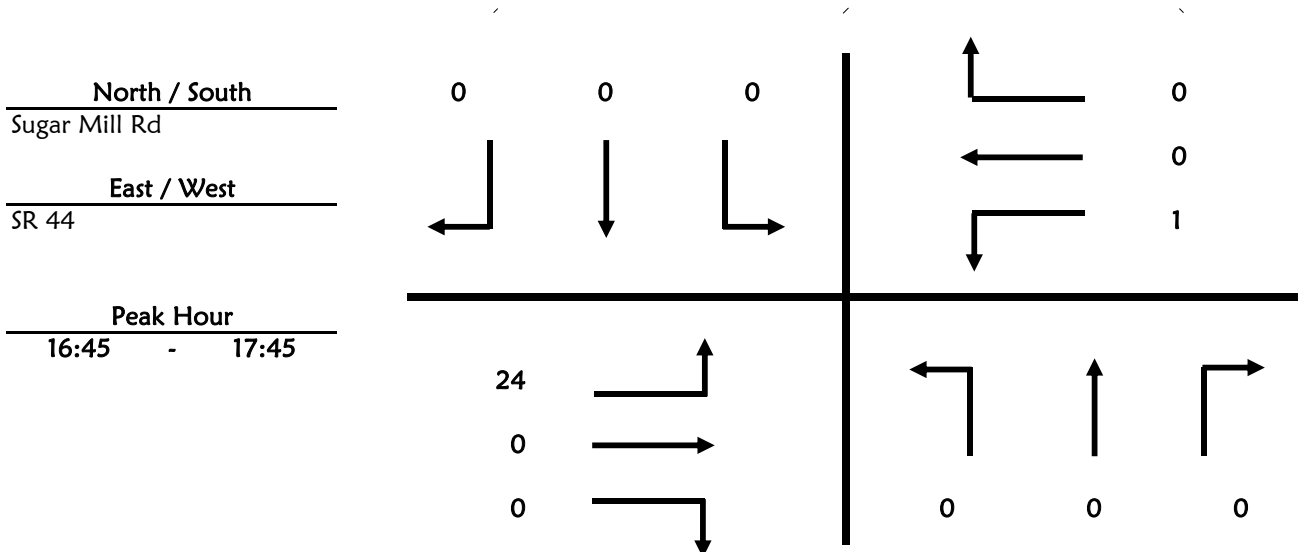
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Rd & SR 44
 Date April 16, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	8	0	0	0	0	0
16:15 - 16:30	6	0	0	0	0	0
16:30 - 16:45	3	0	0	0	0	0
16:45 - 17:00	4	0	0	0	0	0
17:00 - 17:15	7	0	0	1	0	0
17:15 - 17:30	6	0	0	0	0	0
17:30 - 17:45	7	0	0	0	0	0
17:45 - 18:00	6	0	0	1	0	0



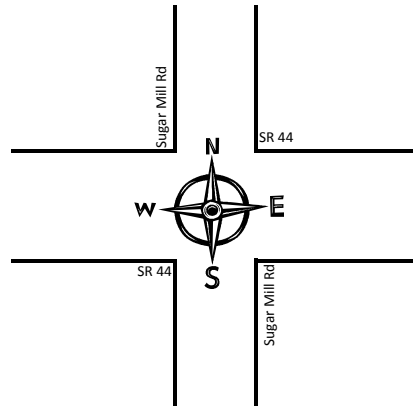
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/16/2014

NB/SB: Sugar Mill Rd
 EB/WB: SR 44

		Hour								
		7:00	8:00	16:00	17:00					
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike				1					1
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

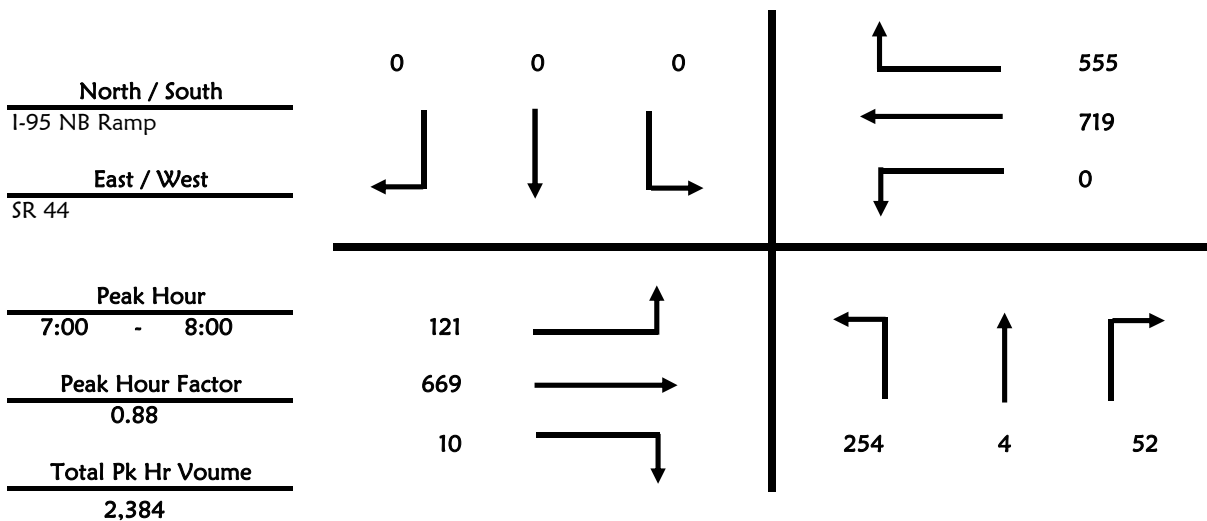
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	55	1	13	0	0	0
7:15 - 7:30	85	2	16	0	0	0
7:30 - 7:45	57	1	16	0	0	0
7:45 - 8:00	57	0	7	0	0	0
8:00 - 8:15	43	4	12	0	0	0
8:15 - 8:30	38	1	13	0	0	0
8:30 - 8:45	63	2	42	0	0	0
8:45 - 9:00	53	1	21	0	0	0
Total	451	12	140	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	27	159	0	0	148	128
7:15 - 7:30	21	149	0	0	189	135
7:30 - 7:45	42	188	1	0	205	168
7:45 - 8:00	31	173	9	0	177	124
8:00 - 8:15	33	140	4	0	155	120
8:15 - 8:30	23	143	1	0	161	108
8:30 - 8:45	33	209	2	0	192	102
8:45 - 9:00	26	164	2	0	188	103
Total	236	1,325	19	0	1,415	988



Roadway Count Summary

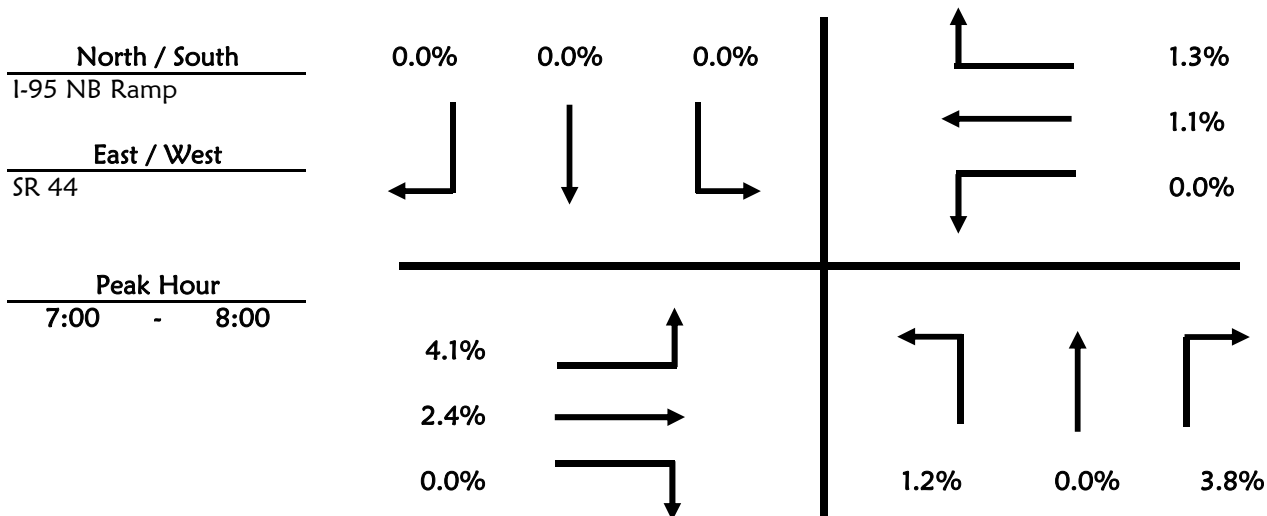
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 NB Ramp & SR 44
 Date April 16, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	1	0	1	0	0	0
7:30 - 7:45	2	0	1	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	2	0	1	0	0	0
8:15 - 8:30	1	0	1	0	0	0
8:30 - 8:45	2	0	1	0	0	0
8:45 - 9:00	0	0	1	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	4	0	0	1	0
7:15 - 7:30	1	6	0	0	2	2
7:30 - 7:45	3	2	0	0	4	3
7:45 - 8:00	1	4	0	0	1	2
8:00 - 8:15	1	6	0	0	1	3
8:15 - 8:30	2	7	0	0	4	2
8:30 - 8:45	3	10	0	0	1	0
8:45 - 9:00	2	4	0	0	4	5



Roadway Count Summary

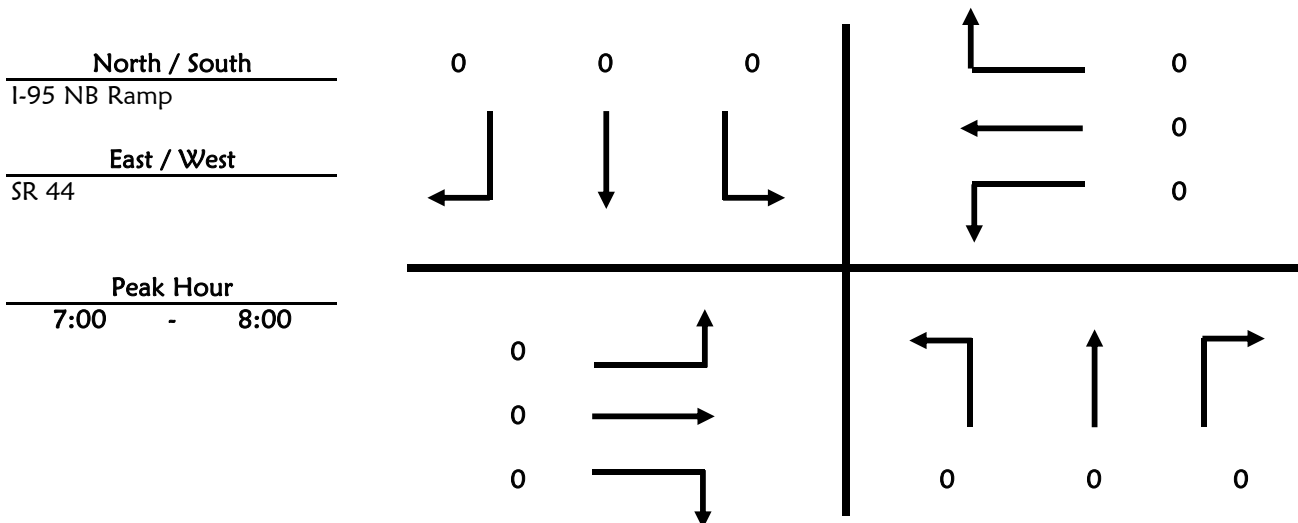
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp **&** SR 44
Date April 16, 2014
Time Period 7:00 to 9:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

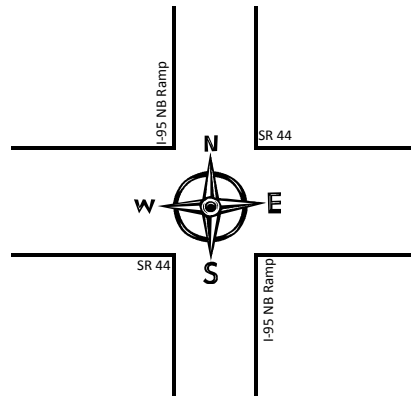
Project #: 12-033.01
 Date: 4/16/2014

NB/SB: I-95 NB Ramp
 EB/WB: SR 44

*** NO PEDS**

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00					1	7:00
2	8:00					2	8:00
3						3	
4	16:00					4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		0	0	0	0		

Eastbound	Bike								0
	Ped								0
Westbound	Bike								0
	Ped								0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

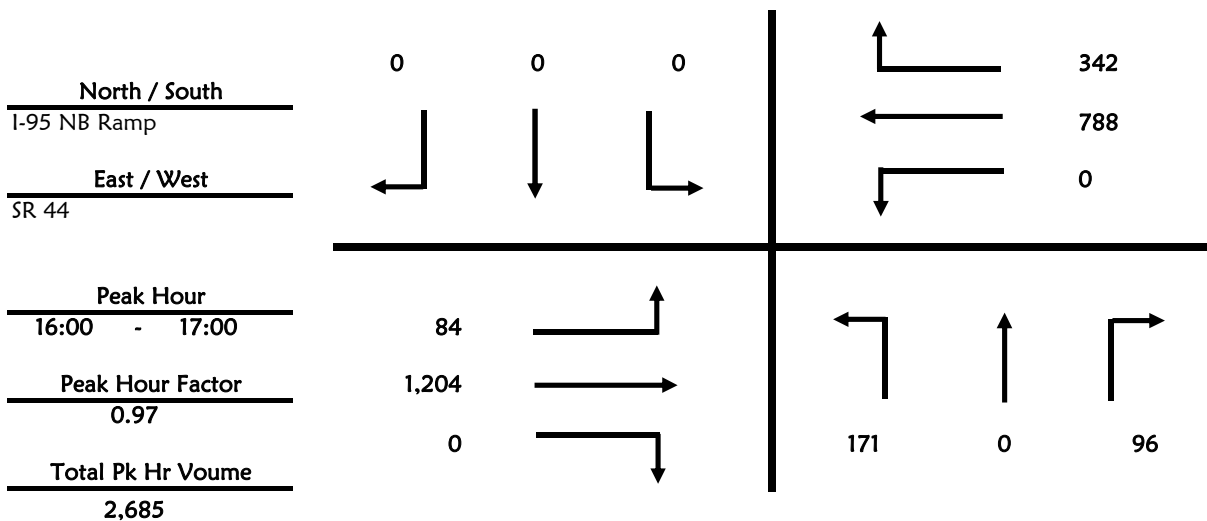
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	52	0	22	0	0	0
16:15 - 16:30	37	0	22	0	0	0
16:30 - 16:45	48	0	27	0	0	0
16:45 - 17:00	34	0	25	0	0	0
17:00 - 17:15	38	0	22	0	0	0
17:15 - 17:30	37	1	25	0	0	0
17:30 - 17:45	37	0	24	0	0	0
17:45 - 18:00	39	0	21	0	0	0
Total	322	1	188	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	23	269	0	0	210	94
16:15 - 16:30	30	335	0	0	190	75
16:30 - 16:45	11	278	0	0	204	94
16:45 - 17:00	20	322	0	0	184	79
17:00 - 17:15	13	296	0	0	190	90
17:15 - 17:30	15	372	0	0	158	93
17:30 - 17:45	19	307	0	0	208	74
17:45 - 18:00	20	281	0	0	157	67
Total	151	2,460	0	0	1,501	666



Roadway Count Summary

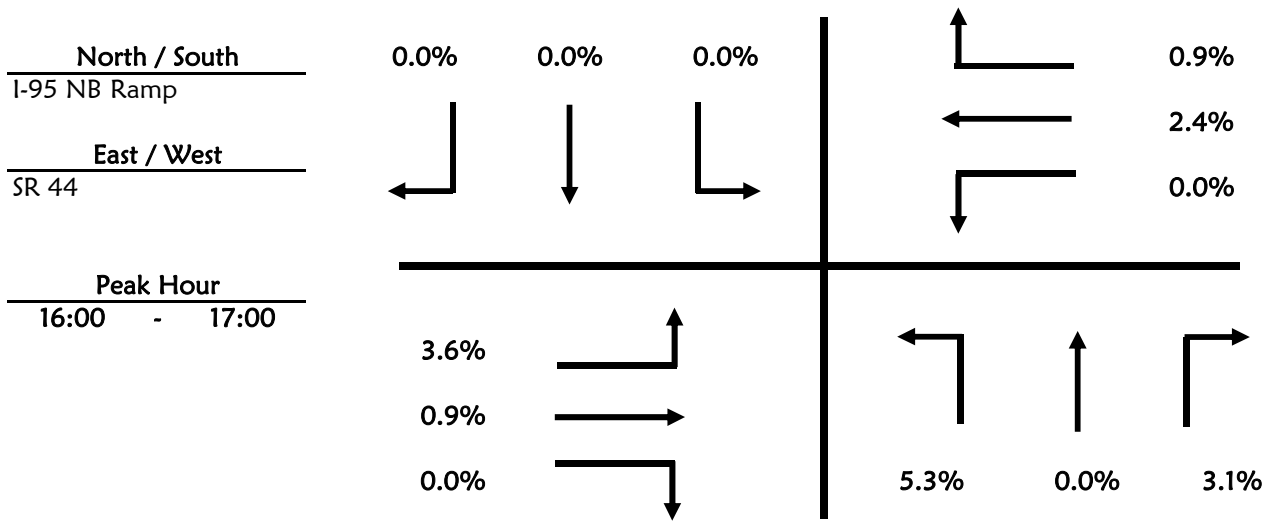
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 NB Ramp & SR 44
 Date April 16, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	4	0	1	0	0	0
16:15 - 16:30	2	0	0	0	0	0
16:30 - 16:45	2	0	2	0	0	0
16:45 - 17:00	1	0	0	0	0	0
17:00 - 17:15	1	0	1	0	0	0
17:15 - 17:30	1	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	1	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	3	0	0	6	1
16:15 - 16:30	1	3	0	0	7	0
16:30 - 16:45	1	3	0	0	1	1
16:45 - 17:00	1	2	0	0	5	1
17:00 - 17:15	0	5	0	0	7	0
17:15 - 17:30	0	1	0	0	2	0
17:30 - 17:45	0	0	0	0	2	0
17:45 - 18:00	0	7	0	0	3	0



Roadway Count Summary

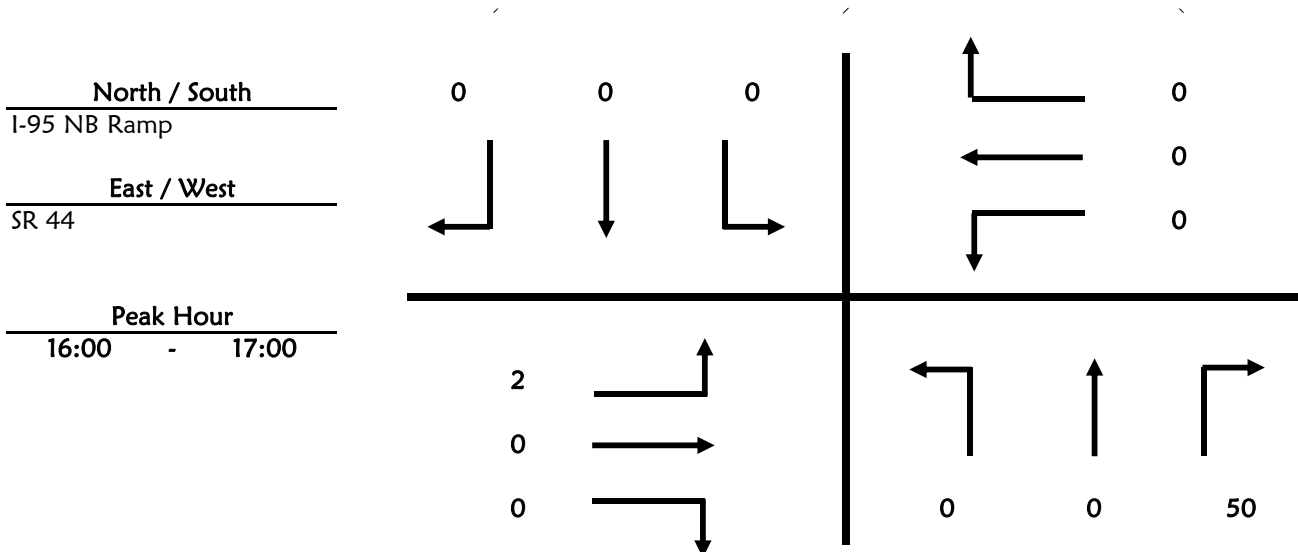
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 NB Ramp & SR 44
 Date April 16, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	8	0	0	0
16:15 - 16:30	0	0	12	0	0	0
16:30 - 16:45	0	0	14	0	0	0
16:45 - 17:00	0	0	16	0	0	0
17:00 - 17:15	0	0	11	0	0	0
17:15 - 17:30	0	0	12	0	0	0
17:30 - 17:45	0	0	10	0	0	0
17:45 - 18:00	0	0	10	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	1	0	0	0	0	0
16:45 - 17:00	1	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	2	0	0	0	0	0
17:30 - 17:45	1	0	0	0	0	0
17:45 - 18:00	2	0	0	0	0	0



Pedestrian & Bicycle Summary

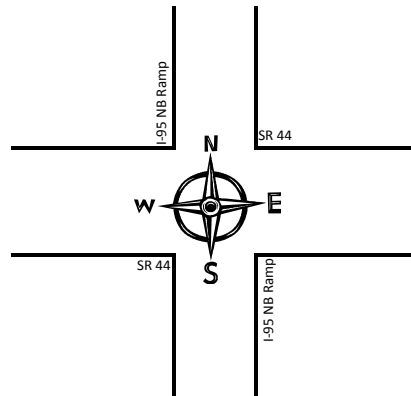
Project #: 12-033.01
 Date: 4/16/2014

NB/SB: I-95 NB Ramp
 EB/WB: SR 44

*** NO PEDS**

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike								0
	Ped								0
Westbound	Bike								0
	Ped								0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

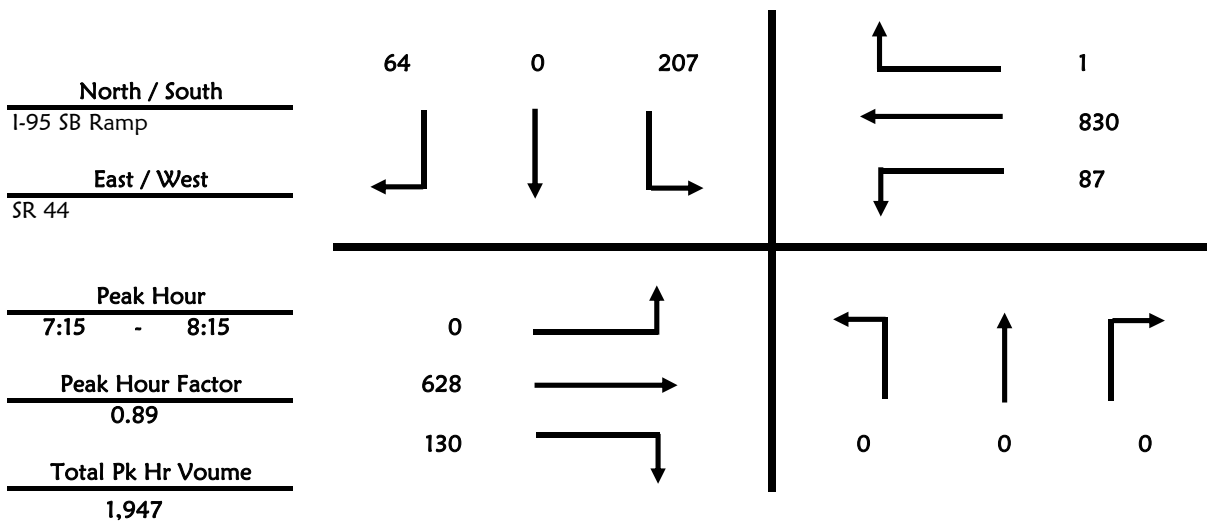
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 SB Ramp & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	45	0	11
7:15 - 7:30	0	0	0	45	0	19
7:30 - 7:45	0	0	0	59	0	18
7:45 - 8:00	0	0	0	60	0	17
8:00 - 8:15	0	0	0	43	0	10
8:15 - 8:30	0	0	0	51	0	15
8:30 - 8:45	0	0	0	52	0	22
8:45 - 9:00	0	0	0	59	0	23
Total	0	0	0	414	0	135

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	140	37	19	178	0
7:15 - 7:30	0	129	40	24	220	0
7:30 - 7:45	0	180	33	23	232	0
7:45 - 8:00	0	166	33	22	190	1
8:00 - 8:15	0	153	24	18	188	0
8:15 - 8:30	0	125	24	15	193	0
8:30 - 8:45	12	177	32	17	217	0
8:45 - 9:00	2	146	31	22	201	0
Total	14	1,216	254	160	1,619	1



Roadway Count Summary

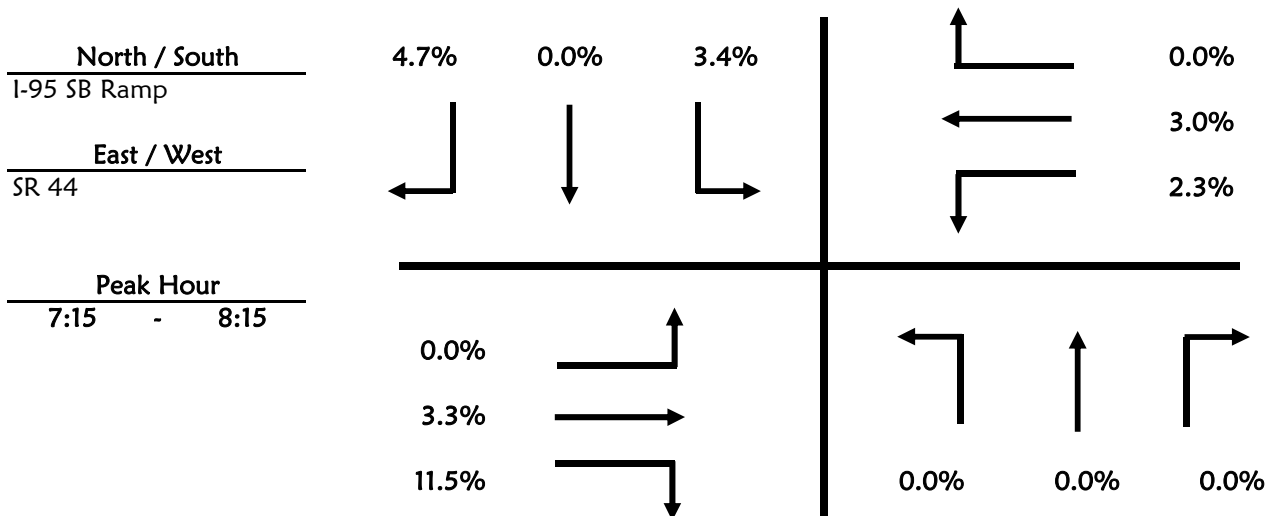
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 SB Ramp & SR 44
 Date April 16, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	1	0	1
7:30 - 7:45	0	0	0	2	0	1
7:45 - 8:00	0	0	0	2	0	1
8:00 - 8:15	0	0	0	2	0	0
8:15 - 8:30	0	0	0	4	0	1
8:30 - 8:45	0	0	0	3	0	0
8:45 - 9:00	0	0	0	0	0	5

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	3	2	0	2	0
7:15 - 7:30	0	5	6	2	3	0
7:30 - 7:45	0	5	4	0	6	0
7:45 - 8:00	0	3	2	0	6	0
8:00 - 8:15	0	8	3	0	10	0
8:15 - 8:30	0	6	0	1	9	0
8:30 - 8:45	0	6	5	0	7	0
8:45 - 9:00	0	6	2	0	7	0



Roadway Count Summary

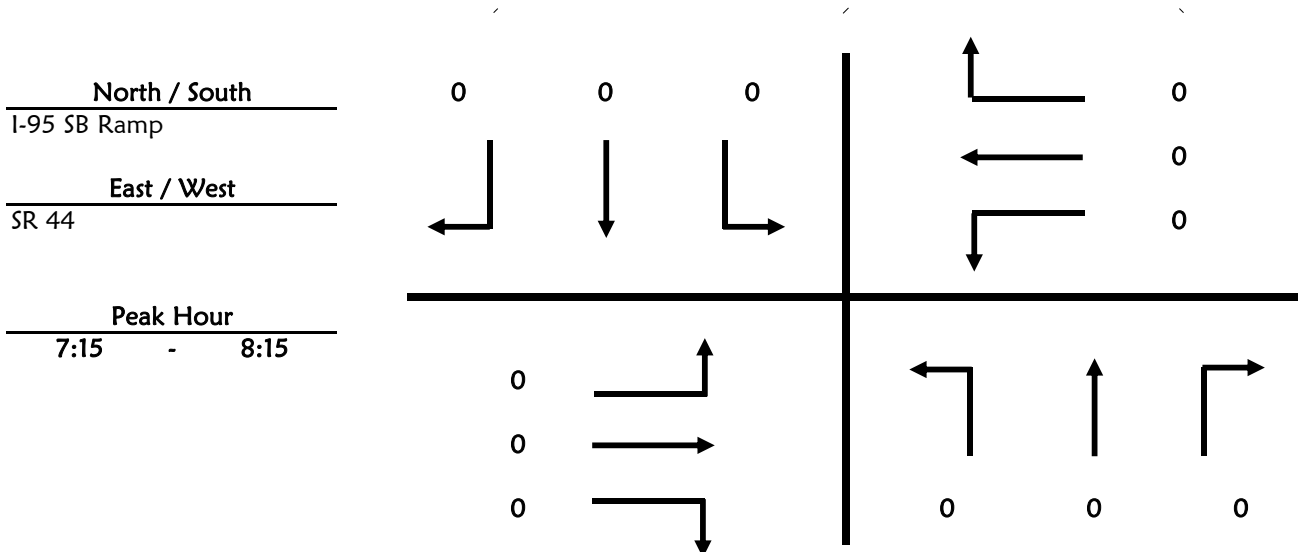
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 SB Ramp & SR 44
Date April 16, 2014
Time Period 7:00 to 9:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	1	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



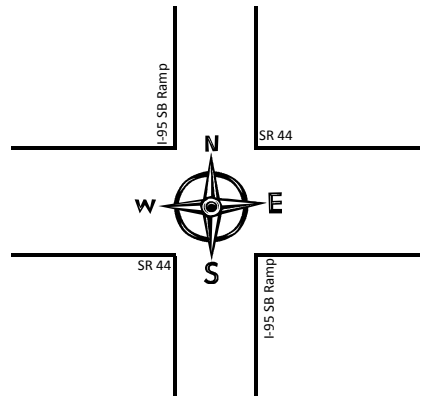
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/16/2014

NB/SB: I-95 SB Ramp
 EB/WB: SR 44

		Hour									
		7:00	8:00	16:00	17:00						
		1	2	3	4	5	6	7	8		
Eastbound	Bike									0	
	Ped									0	
Westbound	Bike									0	
	Ped									0	

		Southbound		Northbound	
		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00		1		
6					
7					
8					
		0	1	0	0



		Southbound		Northbound			
		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

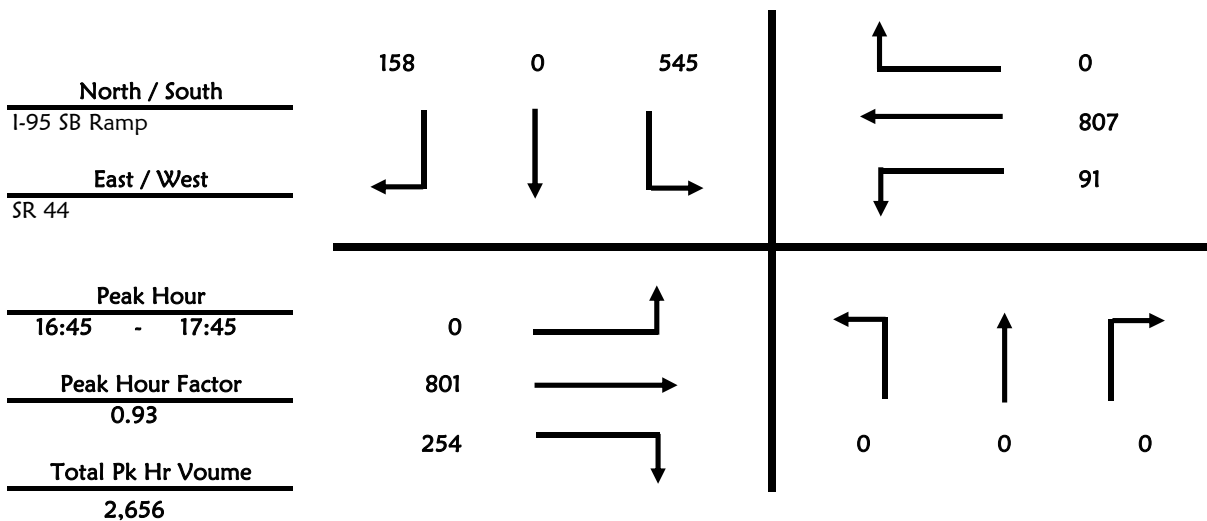
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 SB Ramp & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	113	0	37
16:15 - 16:30	0	0	0	136	0	38
16:30 - 16:45	0	0	0	121	0	33
16:45 - 17:00	0	0	0	124	0	47
17:00 - 17:15	0	0	0	129	0	27
17:15 - 17:30	0	0	0	167	0	37
17:30 - 17:45	0	0	0	125	0	47
17:45 - 18:00	0	0	0	120	0	32
	0	0	0	1,035	0	298

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	173	45	22	231	0
16:15 - 16:30	0	205	49	20	206	0
16:30 - 16:45	0	166	59	16	227	0
16:45 - 17:00	0	203	51	23	200	0
17:00 - 17:15	0	190	61	28	190	0
17:15 - 17:30	0	219	81	21	190	0
17:30 - 17:45	0	189	61	19	227	0
17:45 - 18:00	0	175	53	15	205	0
	0	1,520	460	164	1,676	0



Roadway Count Summary

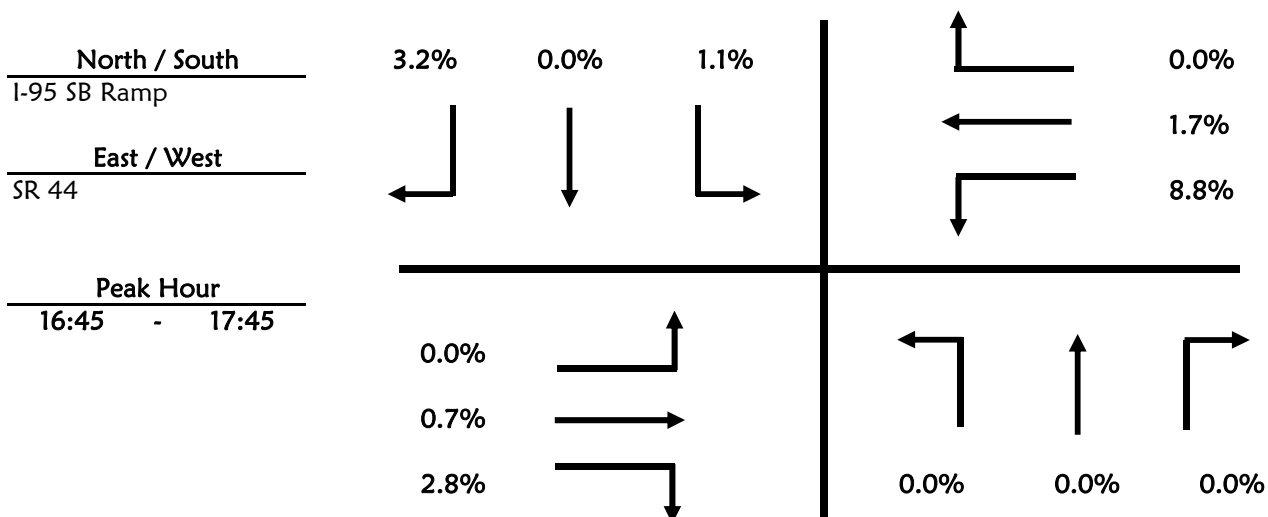
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 SB Ramp & SR 44
 Date April 16, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	1	0	3
16:15 - 16:30	0	0	0	1	0	2
16:30 - 16:45	0	0	0	1	0	2
16:45 - 17:00	0	0	0	3	0	2
17:00 - 17:15	0	0	0	3	0	2
17:15 - 17:30	0	0	0	0	0	1
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	3	0	3

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	2	2	1	12	0
16:15 - 16:30	0	4	2	4	12	0
16:30 - 16:45	0	5	1	0	4	0
16:45 - 17:00	0	3	2	4	3	0
17:00 - 17:15	0	1	2	4	4	0
17:15 - 17:30	0	1	2	0	4	0
17:30 - 17:45	0	1	1	0	3	0
17:45 - 18:00	0	6	0	1	4	0



Roadway Count Summary

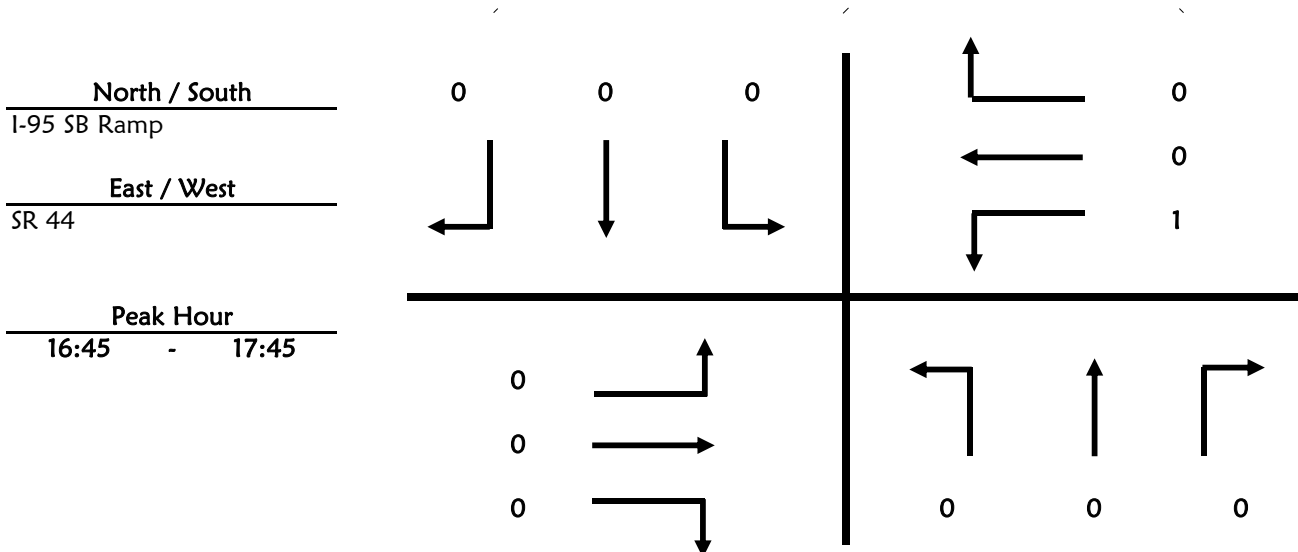
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 SB Ramp & SR 44
Date April 16, 2014
Time Period 16:00 to 18:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	2	0	0
16:15 - 16:30	0	0	0	1	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	1	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



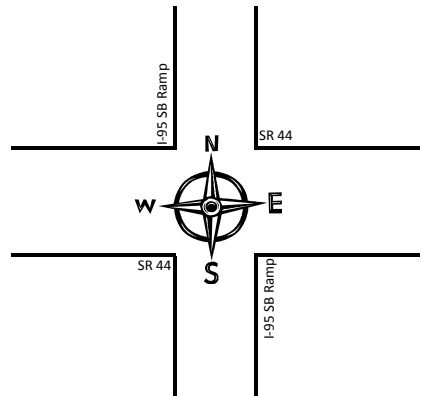
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/16/2014

NB/SB: I-95 SB Ramp
 EB/WB: SR 44

		Hour									
		7:00	8:00	16:00	17:00						
		1	2	3	4	5	6	7	8		
Eastbound	Bike									0	
	Ped									0	
Westbound	Bike									0	
	Ped									0	

		Southbound		Northbound	
		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00		1		
6					
7					
8					
		0	1	0	0



		Southbound		Northbound			
		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

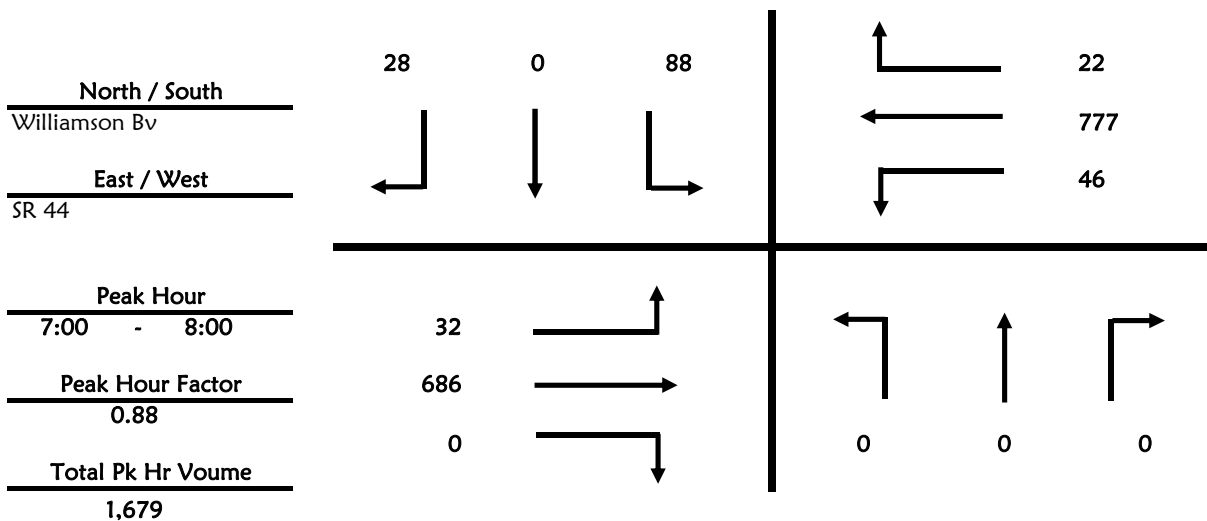
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Williamson Bv & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	30	0	6
7:15 - 7:30	0	0	0	18	0	3
7:30 - 7:45	0	0	0	22	0	11
7:45 - 8:00	0	0	0	18	0	8
8:00 - 8:15	0	0	0	21	0	10
8:15 - 8:30	0	0	0	18	0	3
8:30 - 8:45	0	0	0	20	0	5
8:45 - 9:00	0	0	0	34	0	6
	0	0	0	181	0	52

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	155	0	10	166	3
7:15 - 7:30	13	147	0	9	219	6
7:30 - 7:45	8	197	0	12	220	9
7:45 - 8:00	10	187	0	15	172	4
8:00 - 8:15	5	141	0	11	174	7
8:15 - 8:30	7	134	0	4	160	5
8:30 - 8:45	10	180	0	11	176	8
8:45 - 9:00	7	151	0	16	179	8
	61	1,292	0	88	1,466	50



Roadway Count Summary

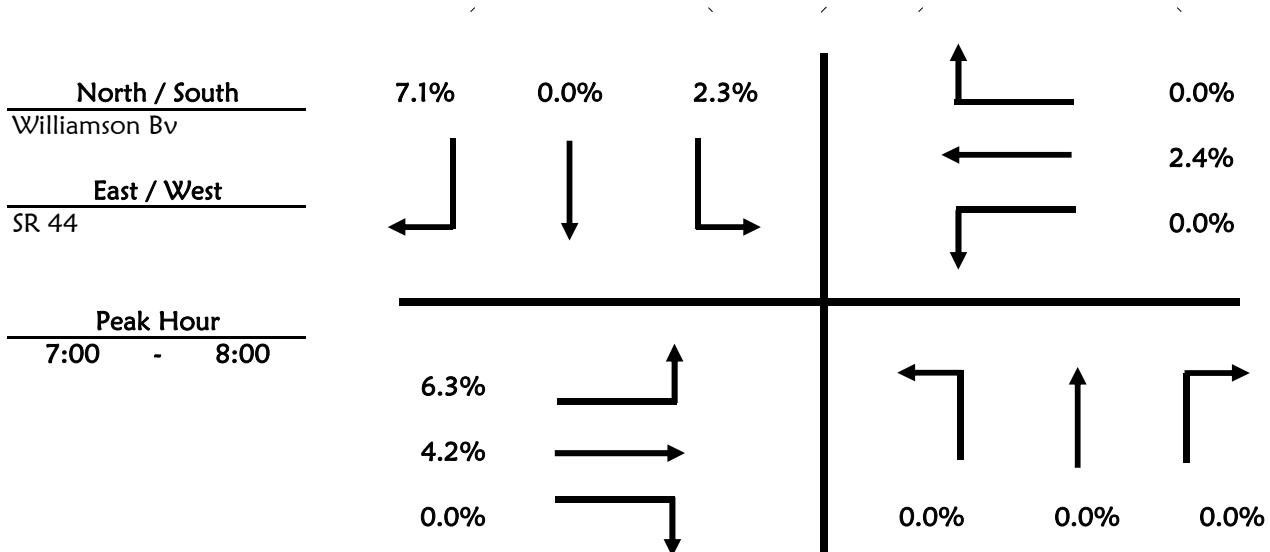
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Williamson Bv & SR 44
 Date April 16, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	1
7:15 - 7:30	0	0	0	1	0	0
7:30 - 7:45	0	0	0	1	0	1
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	1	0	0
8:15 - 8:30	0	0	0	1	0	0
8:30 - 8:45	0	0	0	1	0	0
8:45 - 9:00	0	0	0	1	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	6	0	0	3	0
7:15 - 7:30	1	10	0	0	2	0
7:30 - 7:45	1	9	0	0	5	0
7:45 - 8:00	0	4	0	0	9	0
8:00 - 8:15	0	13	0	0	10	0
8:15 - 8:30	0	4	0	0	12	1
8:30 - 8:45	0	9	0	0	7	0
8:45 - 9:00	0	9	0	0	10	0



Roadway Count Summary

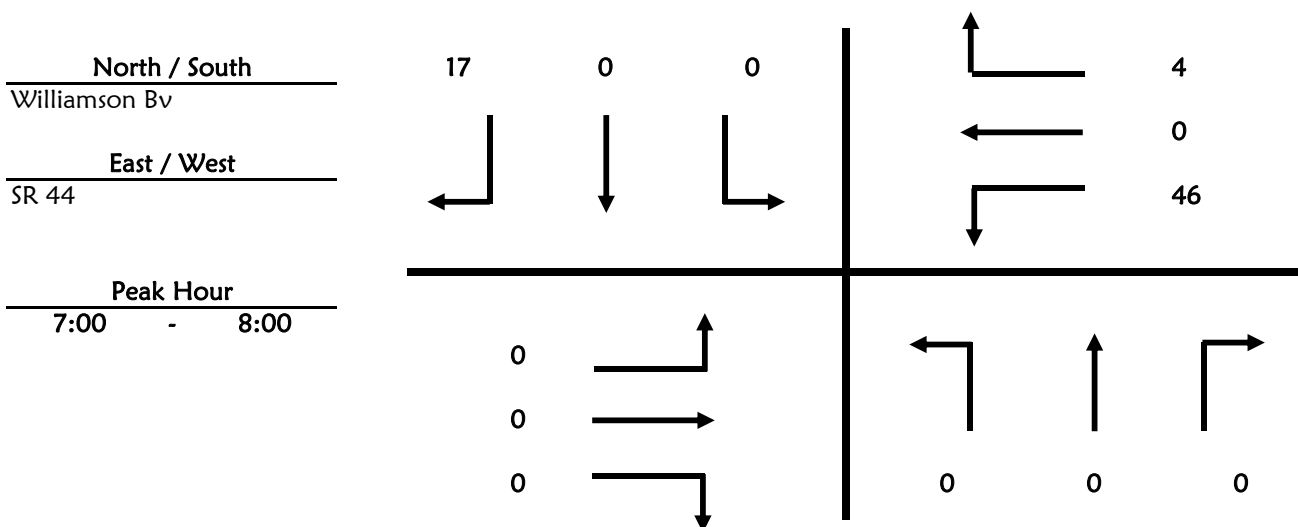
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Williamson Bv & SR 44
 Date April 16, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	3
7:15 - 7:30	0	0	0	0	0	3
7:30 - 7:45	0	0	0	0	0	7
7:45 - 8:00	0	0	0	0	0	4
8:00 - 8:15	0	0	0	0	0	10
8:15 - 8:30	0	0	0	0	0	2
8:30 - 8:45	0	0	0	0	0	2
8:45 - 9:00	0	0	0	0	0	4

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	10	0	0
7:15 - 7:30	0	0	0	9	0	0
7:30 - 7:45	0	0	0	12	0	4
7:45 - 8:00	0	0	0	15	0	0
8:00 - 8:15	0	0	0	11	0	1
8:15 - 8:30	0	0	0	4	0	0
8:30 - 8:45	0	0	0	11	0	1
8:45 - 9:00	0	0	0	15	0	1



Pedestrian & Bicycle Summary

Project #: 12-033.01

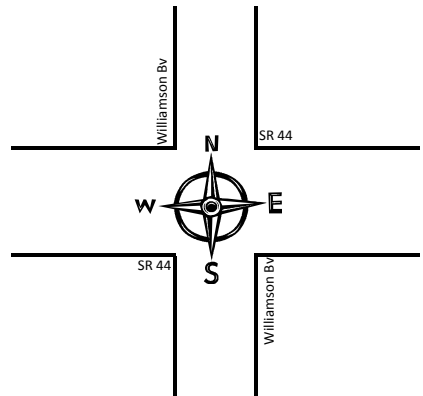
NB/SB: Williamson Bv

Date: 4/16/2014

EB/WB: SR 44

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike				1					1
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

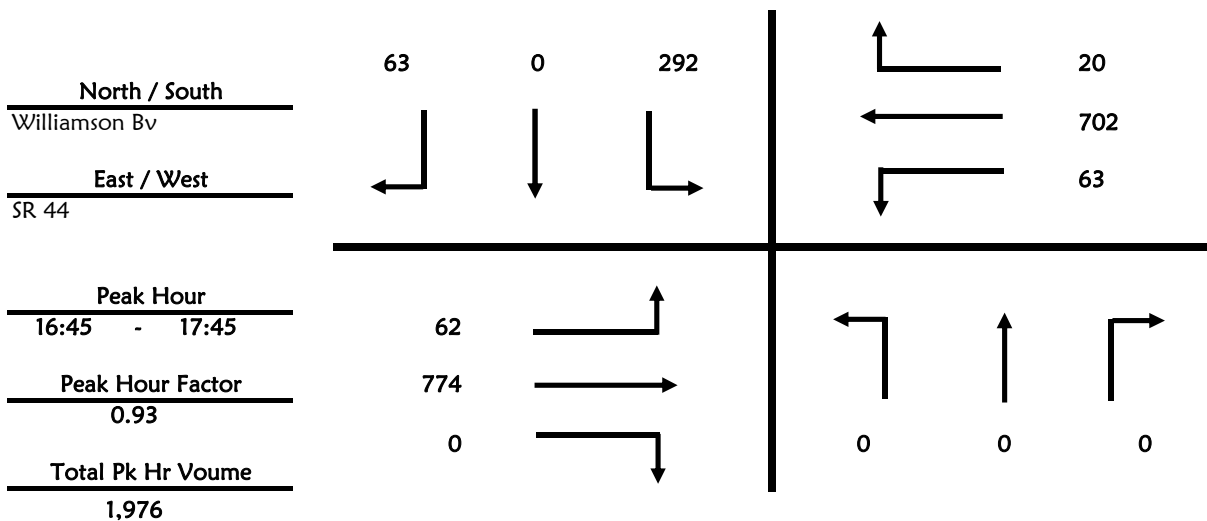
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Williamson Bv & SR 44
Date April 16, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	88	0	16
16:15 - 16:30	0	0	0	79	0	11
16:30 - 16:45	0	0	0	77	0	15
16:45 - 17:00	0	0	0	71	0	13
17:00 - 17:15	0	0	0	74	0	15
17:15 - 17:30	0	0	0	75	0	20
17:30 - 17:45	0	0	0	72	0	15
17:45 - 18:00	0	0	0	53	0	15
Total	0	0	0	589	0	120

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	15	122	0	23	188	7
16:15 - 16:30	9	174	0	22	194	5
16:30 - 16:45	15	146	0	16	186	7
16:45 - 17:00	17	180	0	13	178	5
17:00 - 17:15	8	168	0	14	169	3
17:15 - 17:30	18	223	0	22	170	3
17:30 - 17:45	19	203	0	14	185	9
17:45 - 18:00	14	172	0	22	154	10
Total	115	1,388	0	146	1,424	49



Roadway Count Summary

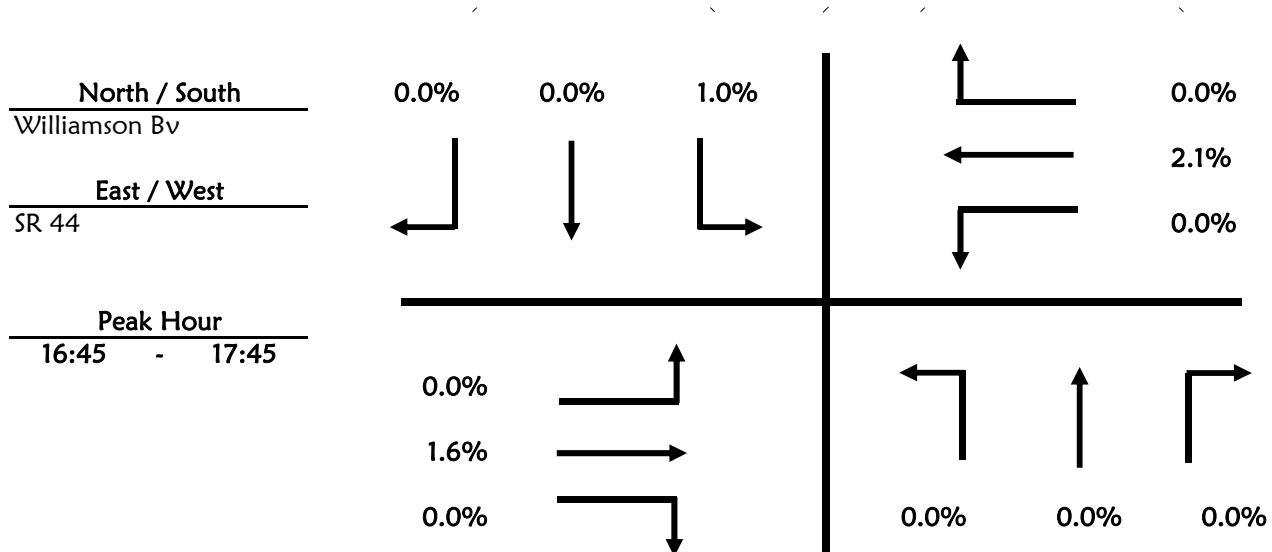
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Williamson Bv & SR 44
 Date April 16, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	1	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	1	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	1	0	0
17:15 - 17:30	0	0	0	2	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	2	0	1	8	1
16:15 - 16:30	0	6	0	0	13	0
16:30 - 16:45	0	6	0	0	7	0
16:45 - 17:00	0	3	0	0	4	0
17:00 - 17:15	0	3	0	0	4	0
17:15 - 17:30	0	4	0	0	5	0
17:30 - 17:45	0	2	0	0	2	0
17:45 - 18:00	0	4	0	1	1	0



Roadway Count Summary

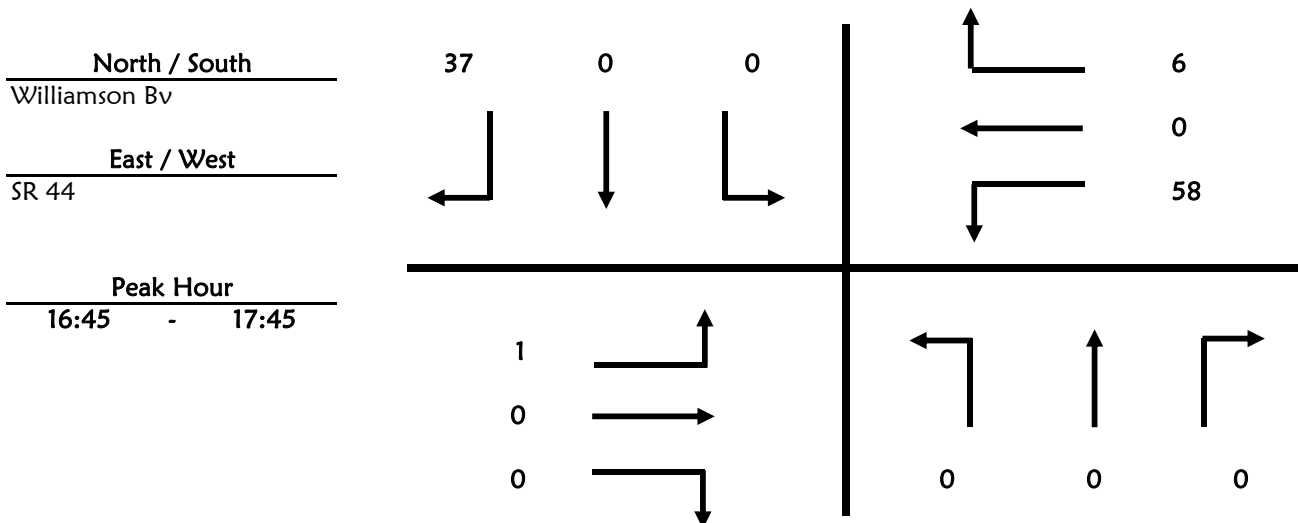
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Williamson Bv **&** SR 44
Date April 16, 2014
Time Period 16:00 to 18:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	4
16:15 - 16:30	0	0	0	0	0	9
16:30 - 16:45	0	0	0	0	0	6
16:45 - 17:00	0	0	0	0	0	8
17:00 - 17:15	0	0	0	0	0	8
17:15 - 17:30	0	0	0	0	0	15
17:30 - 17:45	0	0	0	0	0	6
17:45 - 18:00	0	0	0	0	0	8

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	20	0	3
16:15 - 16:30	0	0	0	22	0	2
16:30 - 16:45	0	0	0	16	0	5
16:45 - 17:00	1	0	0	12	0	0
17:00 - 17:15	0	0	0	13	0	1
17:15 - 17:30	0	0	0	21	0	1
17:30 - 17:45	0	0	0	12	0	4
17:45 - 18:00	0	0	0	14	0	4



Pedestrian & Bicycle Summary

Project #: 12-033.01

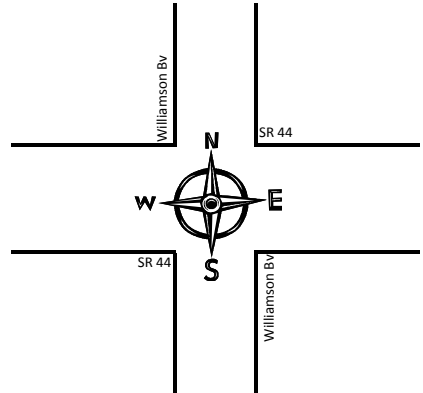
NB/SB: Williamson Bv

Date: 4/16/2014

EB/WB: SR 44

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike										0
	Ped										0
Westbound	Bike										0
	Ped										0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00					1	7:00
2	8:00					2	8:00
3						3	
4	16:00					4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		0	0	0	0		

Eastbound	Bike				1						1
	Ped										0
Westbound	Bike										0
	Ped										0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

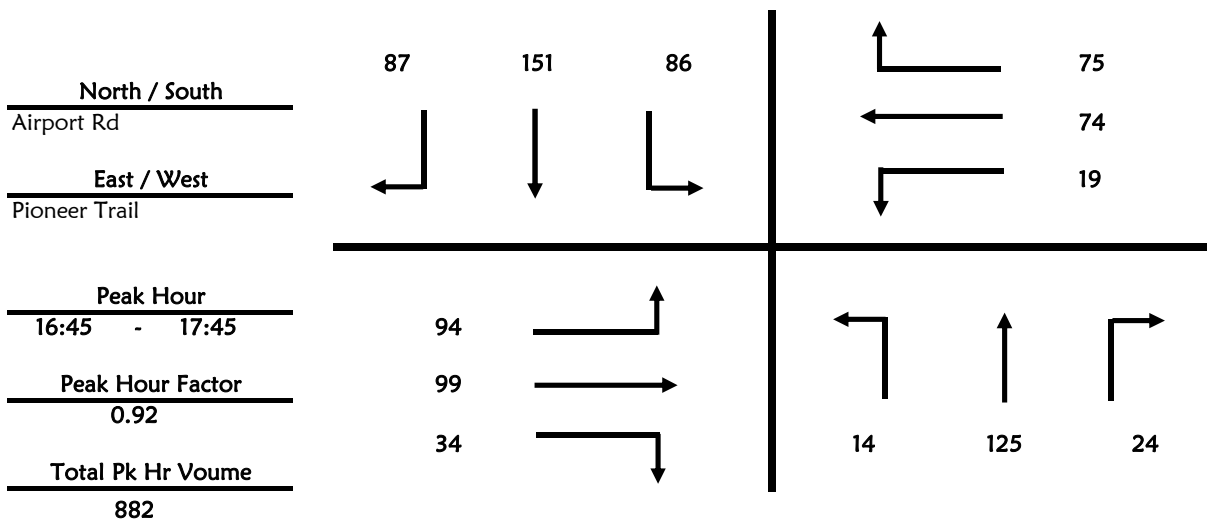
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Airport Rd & Pioneer Trail
 Date April 17, 2014 All Vehicles
 Time Period 16:00 to 0:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	5	26	1	22	40	32
16:15 - 16:30	4	33	1	20	33	26
16:30 - 16:45	1	25	2	20	30	20
16:45 - 17:00	3	27	2	16	44	23
17:00 - 17:15	3	33	6	21	43	18
17:15 - 17:30	2	35	8	26	31	24
17:30 - 17:45	6	30	8	23	33	22
17:45 - 0:00	3	27	5	17	31	17
	27	236	33	165	285	182

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	25	13	6	5	12	19
16:15 - 16:30	29	15	1	4	13	21
16:30 - 16:45	31	21	6	0	8	22
16:45 - 17:00	16	22	11	5	16	19
17:00 - 17:15	17	20	8	4	18	24
17:15 - 17:30	40	30	6	5	17	16
17:30 - 17:45	21	27	9	5	23	16
17:45 - 0:00	22	20	5	4	15	20
	201	168	52	32	122	157



Roadway Count Summary

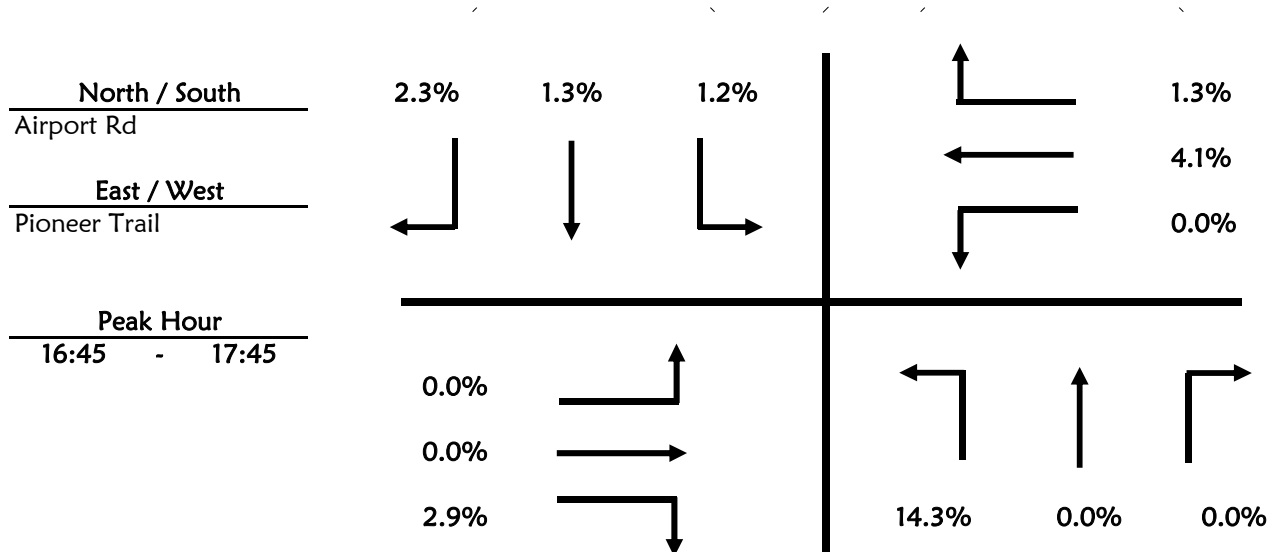
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Airport Rd & Pioneer Trail
 Date April 17, 2014
 Time Period 16:00 to 0:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	1	0	1	0	1
16:15 - 16:30	0	2	0	0	0	1
16:30 - 16:45	0	0	0	0	1	2
16:45 - 17:00	1	0	0	0	1	0
17:00 - 17:15	1	0	0	1	1	1
17:15 - 17:30	0	0	0	0	0	1
17:30 - 17:45	0	0	0	0	0	0
17:45 - 0:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	2
16:30 - 16:45	0	1	0	0	0	1
16:45 - 17:00	0	0	0	0	2	1
17:00 - 17:15	0	0	1	0	0	0
17:15 - 17:30	0	0	0	0	1	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 0:00	0	0	0	1	0	0



Roadway Count Summary

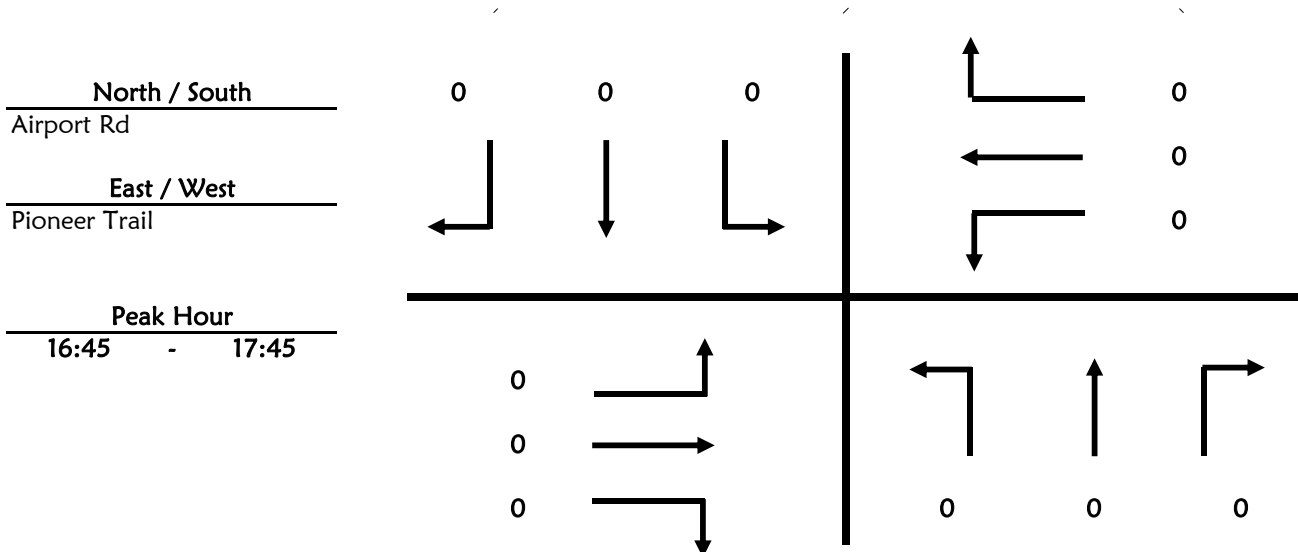
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Airport Rd & Pioneer Trail
 Date April 17, 2014
 Time Period 16:00 to 0:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 0:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 0:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

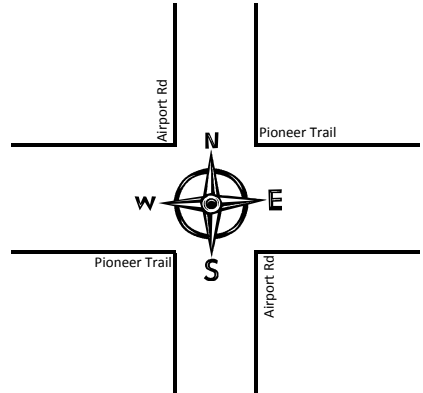
NB/SB: Airport Rd

Date: 4/17/2014

EB/WB: Pioneer Trail

		Hour								
		7:00	8:00	16:00	17:00					
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3	16:00				
4	17:00				
5					
6					
7					
8					
		0	0	0	0



		Southbound		Northbound		Hour	
		Ped ▼	Bike	Ped ▲	Bike		
1	7:00					1	
2	8:00						
3	16:00						
4	17:00						
5							
6							
7							
8							
		0	0	0	1		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

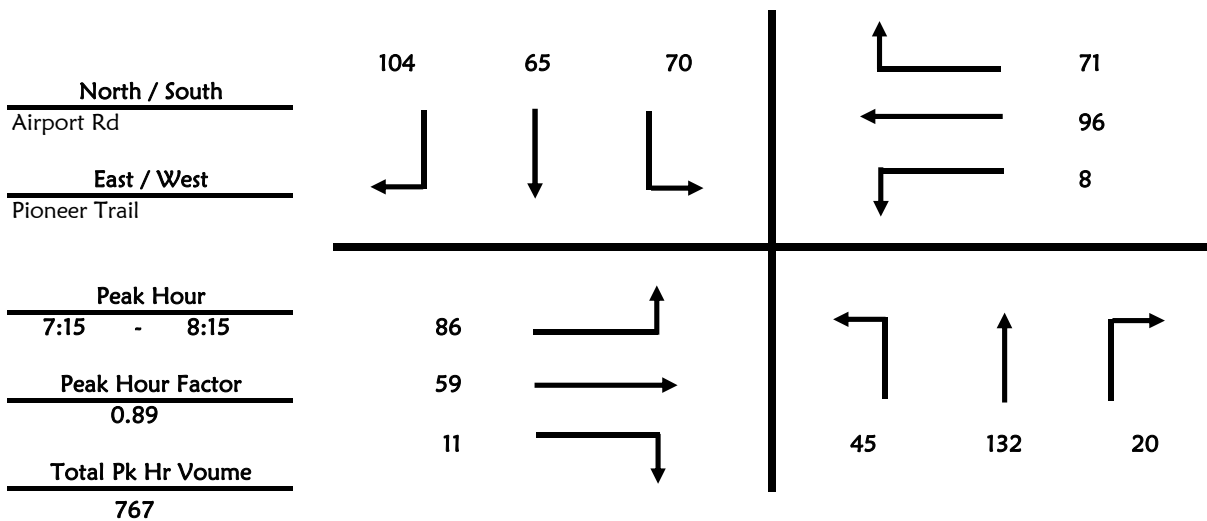
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Airport Rd & Pioneer Trail
Date April 17, 2014 **All Vehicles**
Time Period 7:00 to 0:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	5	24	2	10	10	27
7:15 - 7:30	6	35	5	14	11	32
7:30 - 7:45	22	36	7	16	15	38
7:45 - 8:00	14	31	3	16	22	17
8:00 - 8:15	3	30	5	24	17	17
8:15 - 8:30	4	24	5	19	27	17
8:30 - 8:45	5	34	3	19	28	28
8:45 - 0:00	2	27	5	26	38	21
	61	241	35	144	168	197

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	13	6	2	2	23	25
7:15 - 7:30	25	11	1	1	27	24
7:30 - 7:45	17	17	1	0	31	15
7:45 - 8:00	29	22	5	3	20	14
8:00 - 8:15	15	9	4	4	18	18
8:15 - 8:30	16	5	3	3	13	28
8:30 - 8:45	28	15	4	3	7	19
8:45 - 0:00	22	15	0	4	9	15
	165	100	20	20	148	158



Roadway Count Summary

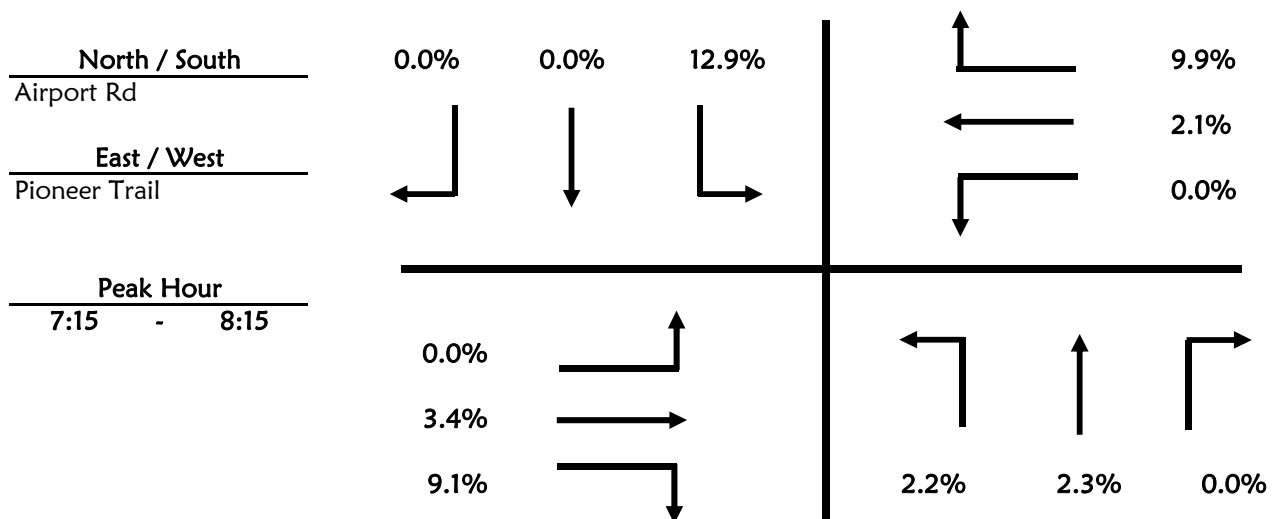
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Airport Rd & Pioneer Trail
 Date April 17, 2014
 Time Period 7:00 to 0:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	2	2	0
7:15 - 7:30	0	0	0	2	0	0
7:30 - 7:45	0	0	0	2	0	0
7:45 - 8:00	1	2	0	2	0	0
8:00 - 8:15	0	1	0	3	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 0:00	0	1	0	2	1	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	1	0	0	0	1
7:15 - 7:30	0	1	0	0	0	2
7:30 - 7:45	0	1	0	0	0	2
7:45 - 8:00	0	0	1	0	1	1
8:00 - 8:15	0	0	0	0	1	2
8:15 - 8:30	0	0	0	0	1	1
8:30 - 8:45	2	3	0	0	1	2
8:45 - 0:00	4	0	0	1	0	1



Roadway Count Summary

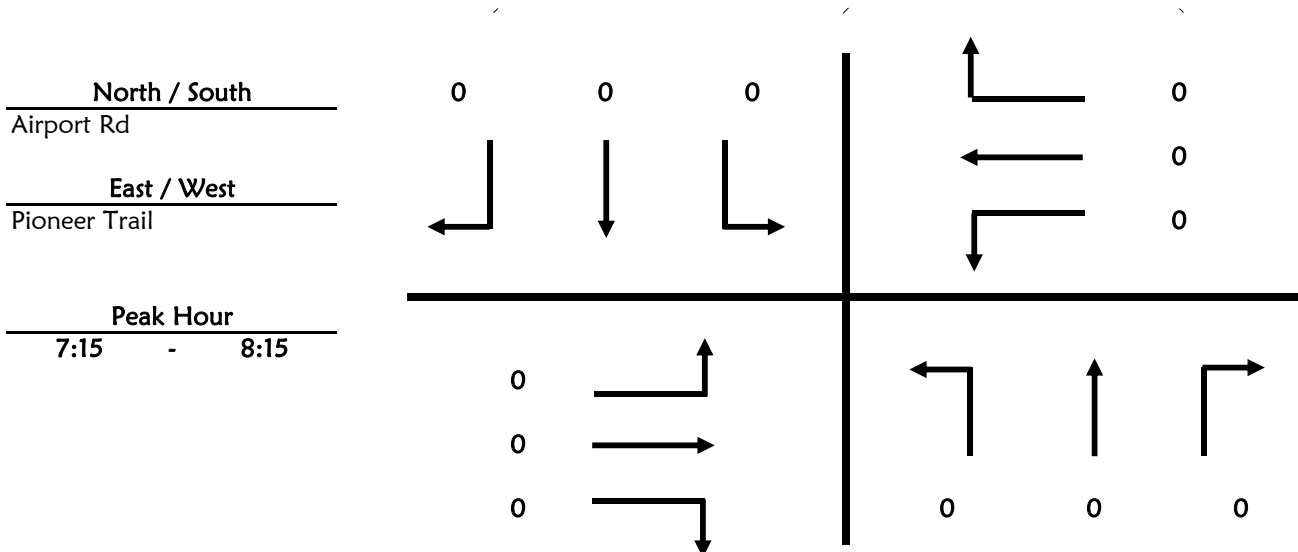
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Airport Rd & Pioneer Trail
Date April 17, 2014
Time Period 7:00 to 0:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 0:00	1	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 0:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

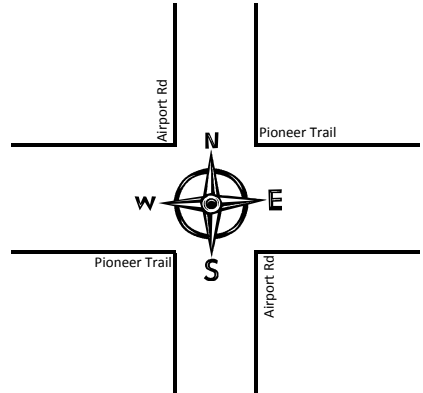
NB/SB: Airport Rd

Date: 4/17/2014

EB/WB: Pioneer Trail

		Hour								
		7:00	8:00	16:00	17:00					
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3	16:00				
4	17:00				
5					
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3	16:00						
4	17:00				1		
5							
6							
7							
8							
		0	0	0	1		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

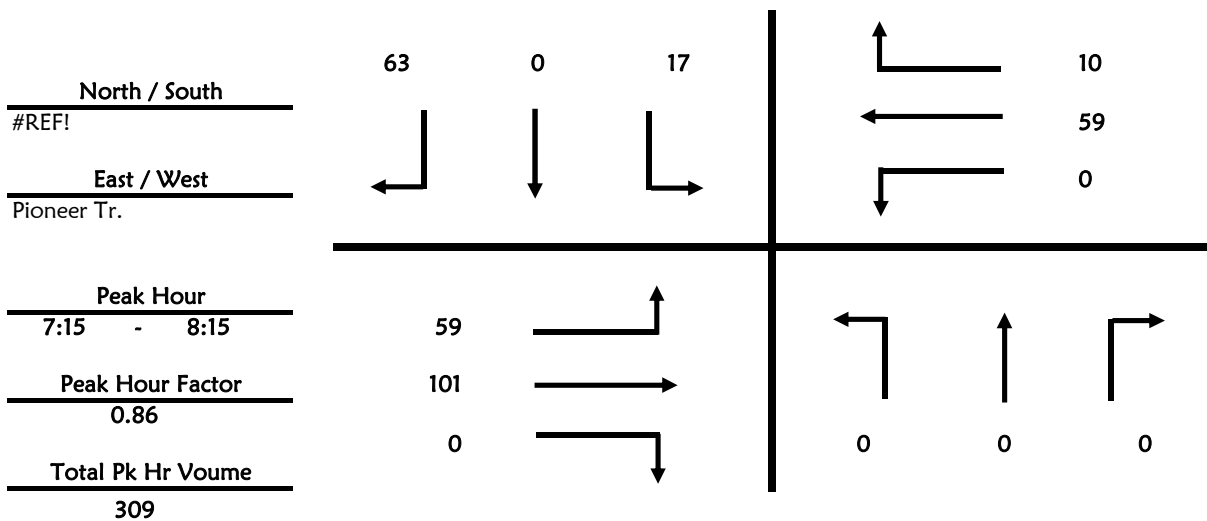
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection #REF! & Pioneer Tr.
Date April 17, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	7	0	18
7:15 - 7:30	0	0	0	3	0	19
7:30 - 7:45	0	0	0	7	0	14
7:45 - 8:00	0	0	0	5	0	13
8:00 - 8:15	0	0	0	2	0	17
8:15 - 8:30	0	0	0	4	0	12
8:30 - 8:45	0	0	0	1	0	10
8:45 - 9:00	0	0	0	2	0	11
Total	0	0	0	31	0	114

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	6	15	0	0	13	1
7:15 - 7:30	14	18	0	0	16	2
7:30 - 7:45	18	34	0	0	14	3
7:45 - 8:00	11	22	0	0	12	2
8:00 - 8:15	16	27	0	0	17	3
8:15 - 8:30	11	26	0	0	14	1
8:30 - 8:45	20	18	0	0	14	1
8:45 - 9:00	13	26	0	0	15	6
Total	109	186	0	0	115	19



Roadway Count Summary

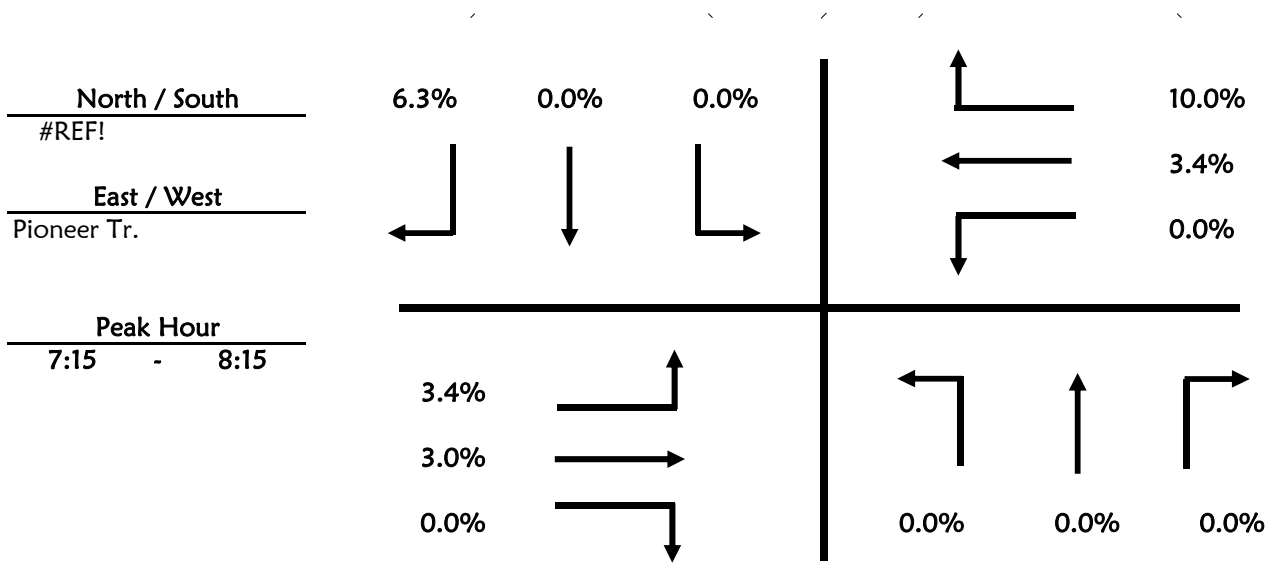
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection #REF! & Pioneer Tr.
 Date April 17, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	1	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	1
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	3
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	1
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	1	1	0	0	1	0
7:30 - 7:45	1	1	0	0	0	1
7:45 - 8:00	0	0	0	0	1	0
8:00 - 8:15	0	1	0	0	0	0
8:15 - 8:30	0	1	0	0	1	0
8:30 - 8:45	3	0	0	0	0	0
8:45 - 9:00	3	1	0	0	1	0



Roadway Count Summary

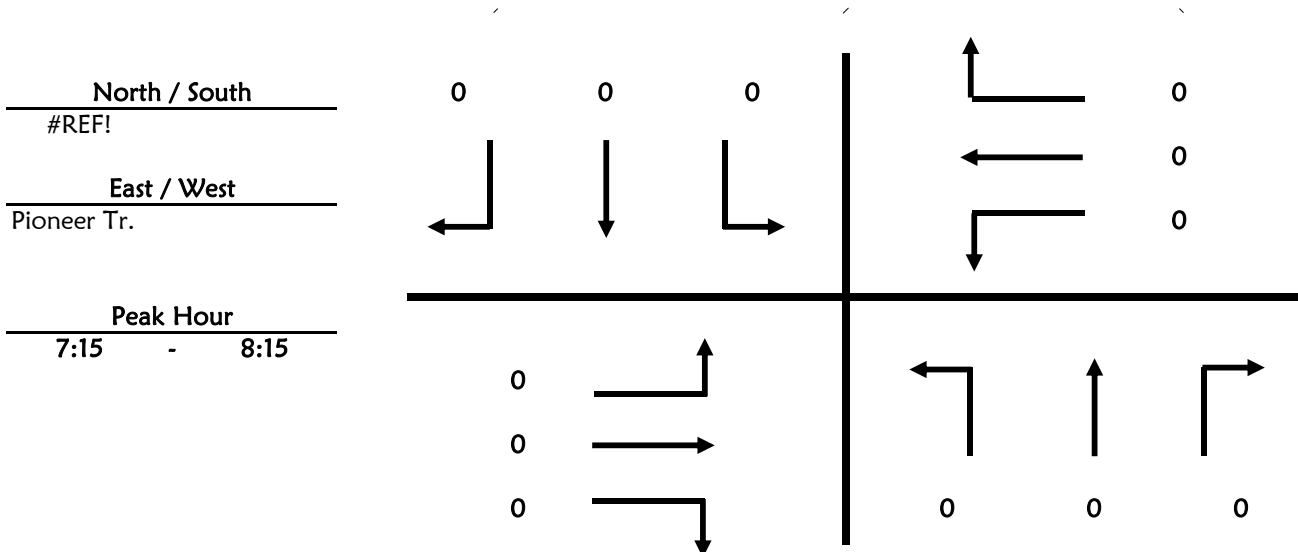
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection #REF! & Pioneer Tr.
 Date April 17, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

NB/SB: #REF!

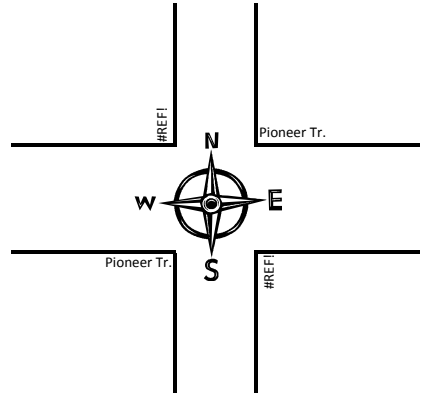
Date: 4/17/2014

EB/WB: Pioneer Tr.

NO PEDS

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00				
5 17:00				
6				
7				
8				
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00				
5 17:00				
6				
7				
8				
	0	0	0	0

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

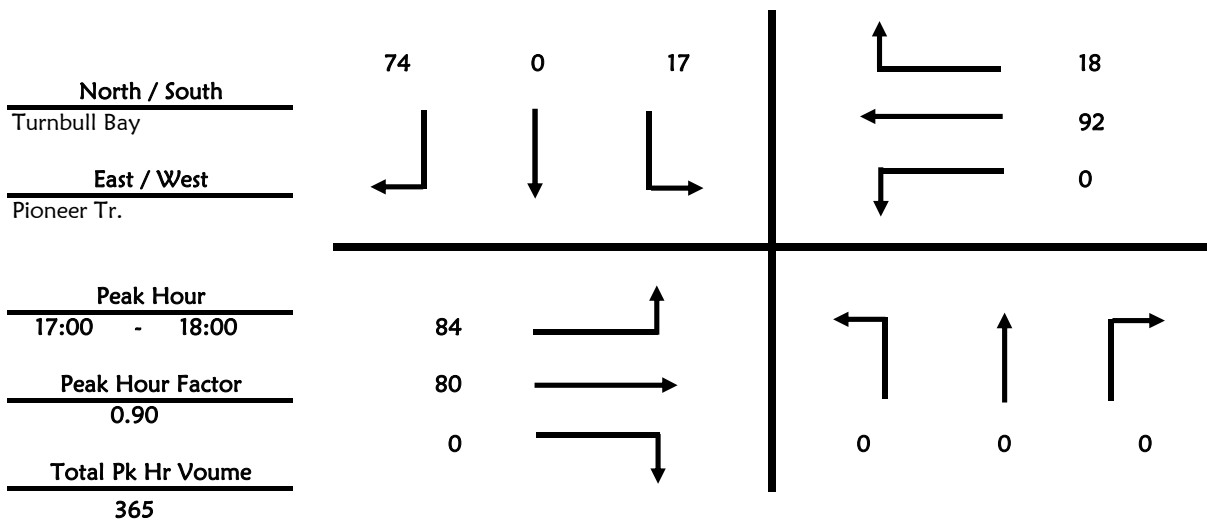
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Turnbull Bay & Pioneer Tr.
Date April 17, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	5	0	17
16:15 - 16:30	0	0	0	4	0	11
16:30 - 16:45	0	0	0	3	0	17
16:45 - 17:00	0	0	0	3	0	18
17:00 - 17:15	0	0	0	1	0	21
17:15 - 17:30	0	0	0	7	0	17
17:30 - 17:45	0	0	0	4	0	15
17:45 - 18:00	0	0	0	5	0	21
Total	0	0	0	32	0	137

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	17	22	0	0	29	8
16:15 - 16:30	13	22	0	0	20	5
16:30 - 16:45	12	32	0	1	21	6
16:45 - 17:00	15	26	0	0	13	5
17:00 - 17:15	17	20	0	0	23	4
17:15 - 17:30	26	21	0	0	27	4
17:30 - 17:45	19	19	0	0	26	6
17:45 - 18:00	22	20	0	0	16	4
Total	141	182	0	1	175	42



Roadway Count Summary

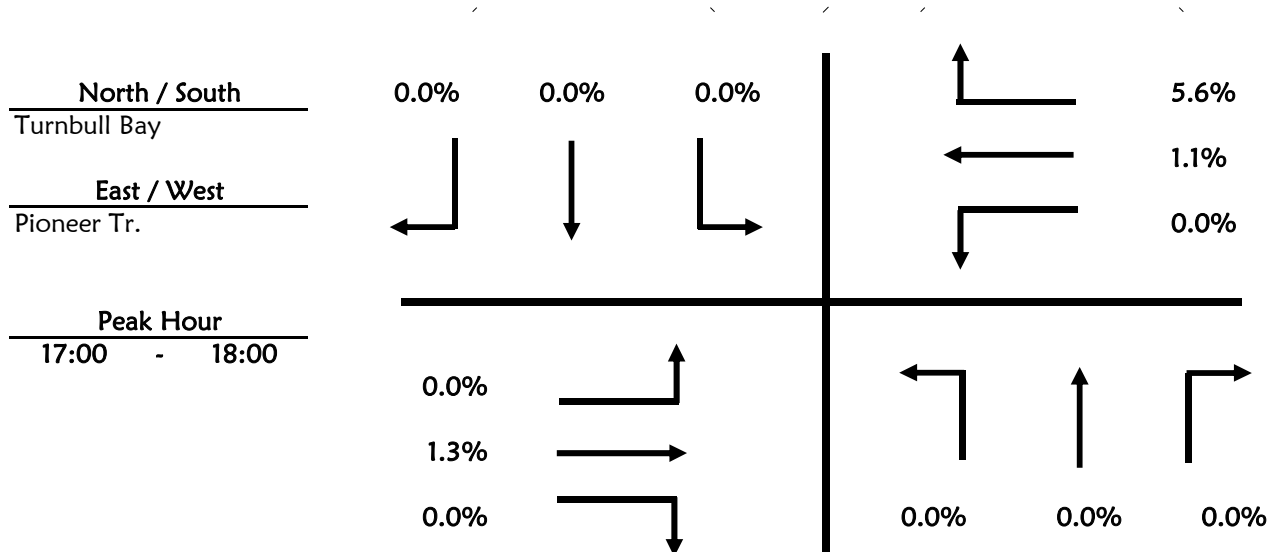
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Turnbull Bay & Pioneer Tr.
 Date April 17, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	1
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	1	0	0	1	0
16:30 - 16:45	2	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	1	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	1	0	0	0	0
17:45 - 18:00	0	0	0	0	0	1



Roadway Count Summary

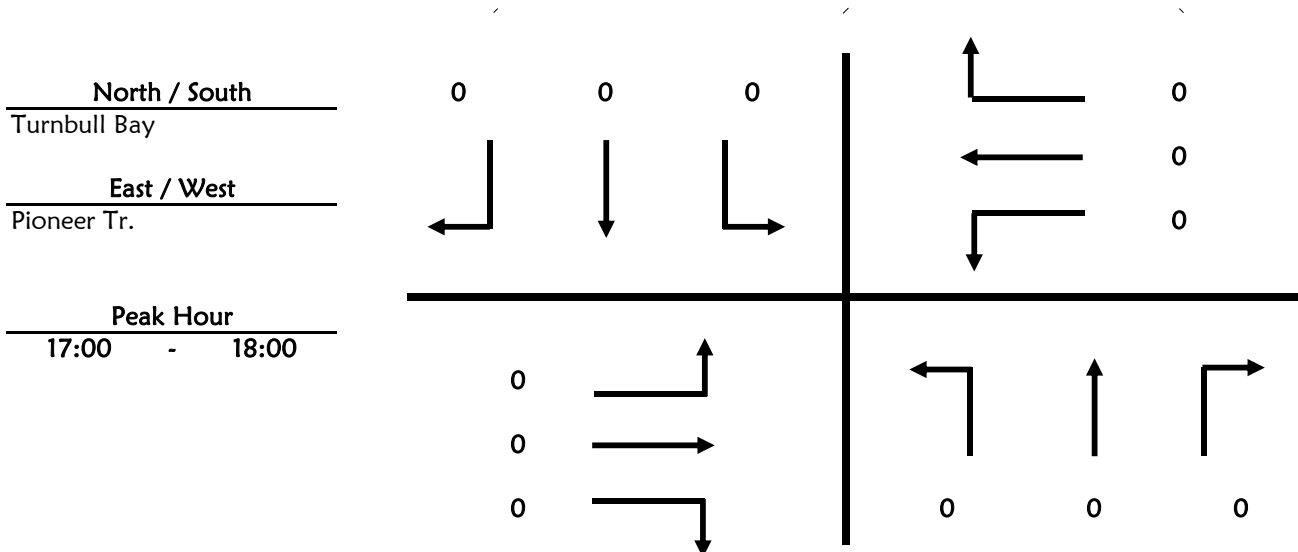
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Turnbull Bay & Pioneer Tr.
 Date April 17, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

NB/SB: Turnbull Bay

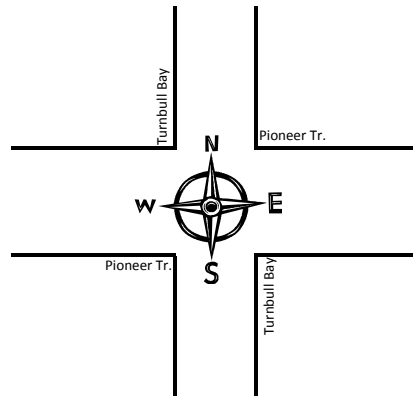
Date: 4/17/2014

EB/WB: Pioneer Tr.

NO PEDS

		Hour								
		7:00	8:00	16:00	17:00					
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00				
5 17:00				
6				
7				
8				
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00				
5 17:00				
6				
7				
8				
	0	0	0	0

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

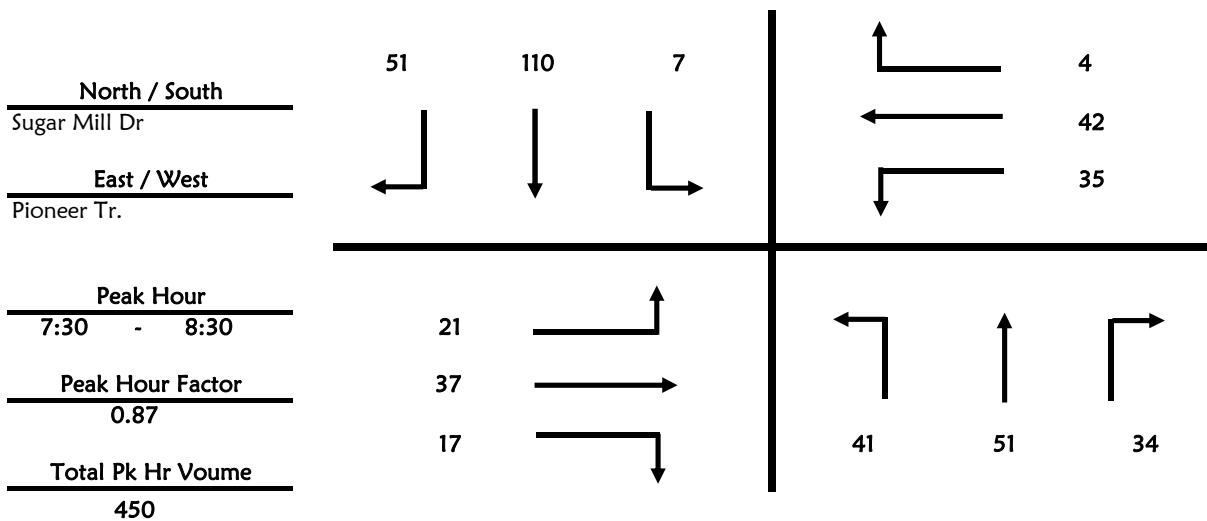
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Sugar Mill Dr & Pioneer Tr.
Date April 17, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	10	9	4	1	21	8
7:15 - 7:30	13	10	1	2	16	9
7:30 - 7:45	10	15	8	1	32	16
7:45 - 8:00	16	15	10	4	29	12
8:00 - 8:15	8	9	10	1	24	10
8:15 - 8:30	7	12	6	1	25	13
8:30 - 8:45	10	12	7	1	26	8
8:45 - 9:00	6	16	10	3	29	15
	80	98	56	14	202	91

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	4	7	2	8	7	1
7:15 - 7:30	5	2	4	7	4	2
7:30 - 7:45	5	12	4	14	11	1
7:45 - 8:00	4	13	7	5	13	1
8:00 - 8:15	10	3	3	7	5	2
8:15 - 8:30	2	9	3	9	13	0
8:30 - 8:45	10	7	5	9	15	2
8:45 - 9:00	5	13	7	7	9	1
	45	66	35	66	77	10



Roadway Count Summary

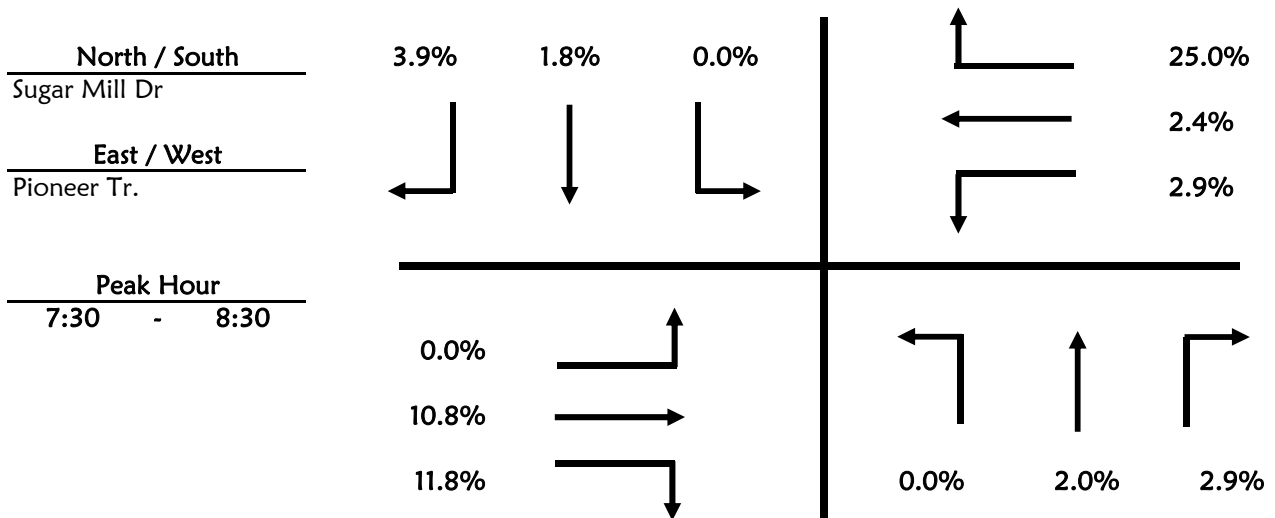
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Dr & Pioneer Tr.
 Date April 17, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	1	0	0	1	1
7:15 - 7:30	0	0	0	0	2	0
7:30 - 7:45	0	1	1	0	0	0
7:45 - 8:00	0	0	0	0	1	0
8:00 - 8:15	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	1	1
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	1	0	0	1	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	2	0	0	0
7:30 - 7:45	0	3	0	1	0	0
7:45 - 8:00	0	0	0	0	0	1
8:00 - 8:15	0	1	2	0	1	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	1	0
8:45 - 9:00	0	2	0	0	0	0



Roadway Count Summary

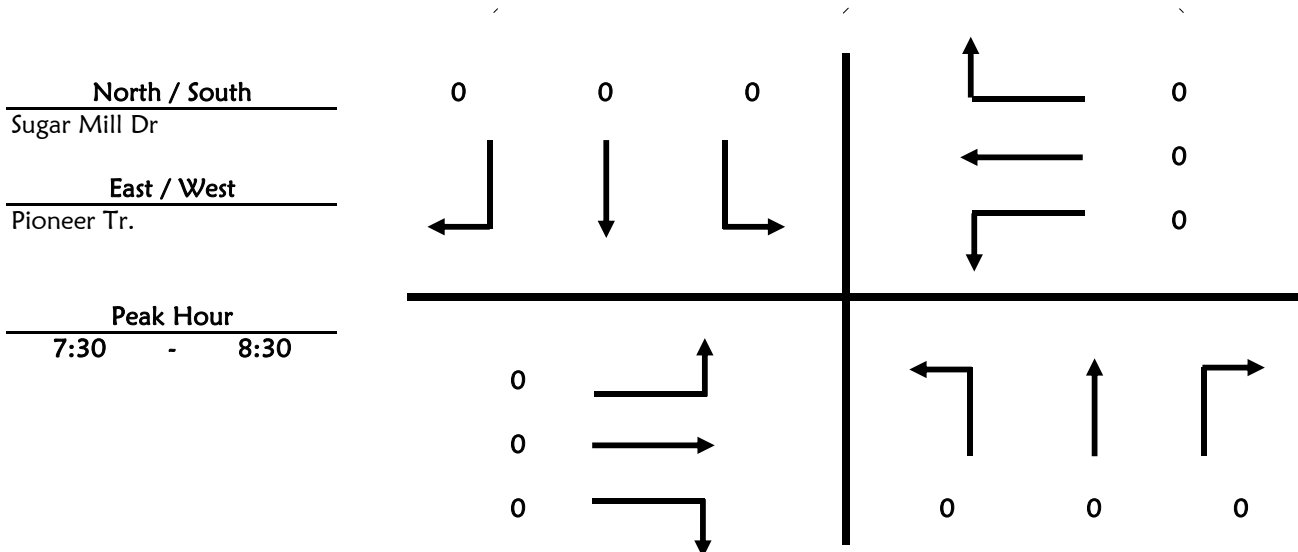
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Dr & Pioneer Tr.
 Date April 17, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

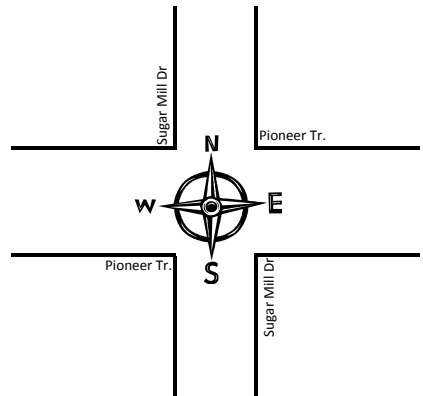
NB/SB: Sugar Mill Dr

Date: 4/17/2014

EB/WB: Pioneer Tr.

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike									0	
	Ped				1					1	
Westbound	Bike		1							1	
	Ped									0	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00	1	1		
2	8:00	2			
3					
4	16:00	1	2	2	
5	17:00	1	1		
6					
7					
8					
		5	4	2	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00	1					
2	8:00			1			
3							
4	16:00						
5	17:00						
6							
7							
8							
		1	0	1	0		

Eastbound	Bike									0
	Ped		1							1
Westbound	Bike									0
	Ped	1								1

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

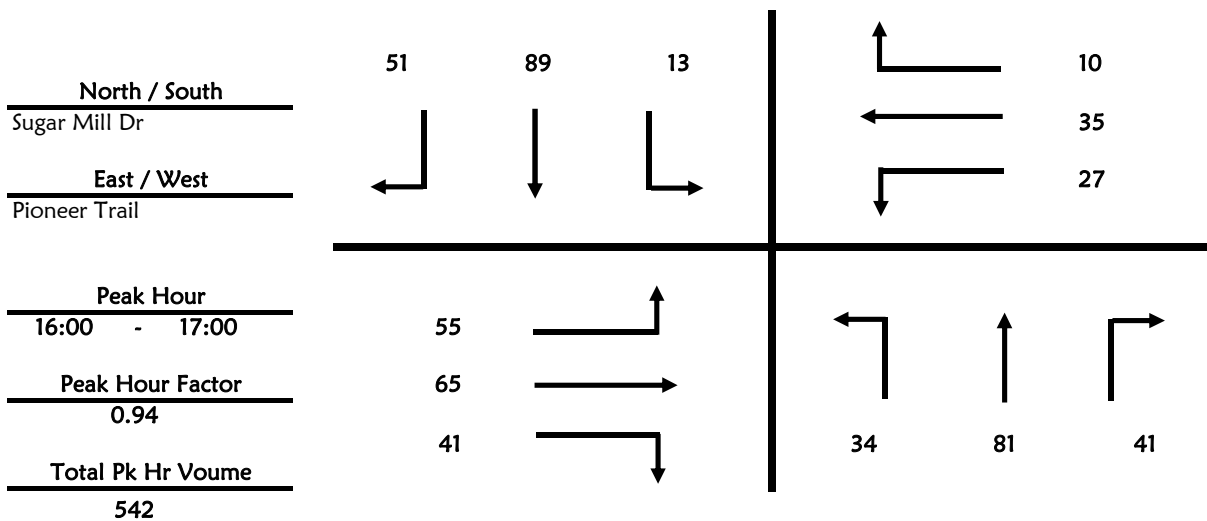
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Sugar Mill Dr & Pioneer Trail
Date April 17, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	9	24	5	3	20	18
16:15 - 16:30	9	18	11	1	19	11
16:30 - 16:45	9	20	11	5	29	12
16:45 - 17:00	7	19	14	4	21	10
17:00 - 17:15	14	22	8	0	22	5
17:15 - 17:30	12	21	10	2	26	13
17:30 - 17:45	7	16	6	1	26	7
17:45 - 18:00	9	10	7	2	11	8
	76	150	72	18	174	84

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	18	18	9	6	10	4
16:15 - 16:30	15	17	5	6	8	2
16:30 - 16:45	16	11	9	8	9	2
16:45 - 17:00	6	19	18	7	8	2
17:00 - 17:15	9	13	7	13	14	2
17:15 - 17:30	17	11	6	7	6	5
17:30 - 17:45	22	12	14	6	10	3
17:45 - 18:00	11	19	9	6	5	0
	114	120	77	59	70	20



Roadway Count Summary

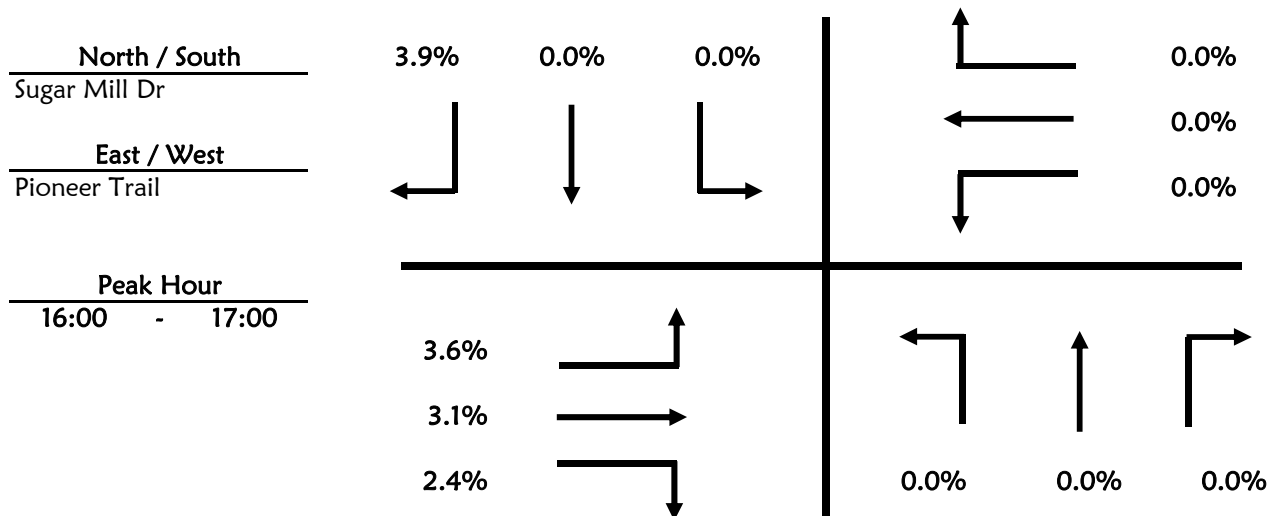
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Dr & Pioneer Trail
 Date April 17, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	1
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	1	0	1	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	0	0	0	0	0
16:15 - 16:30	1	2	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	1	0	0	0
17:00 - 17:15	1	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	1	0



Roadway Count Summary

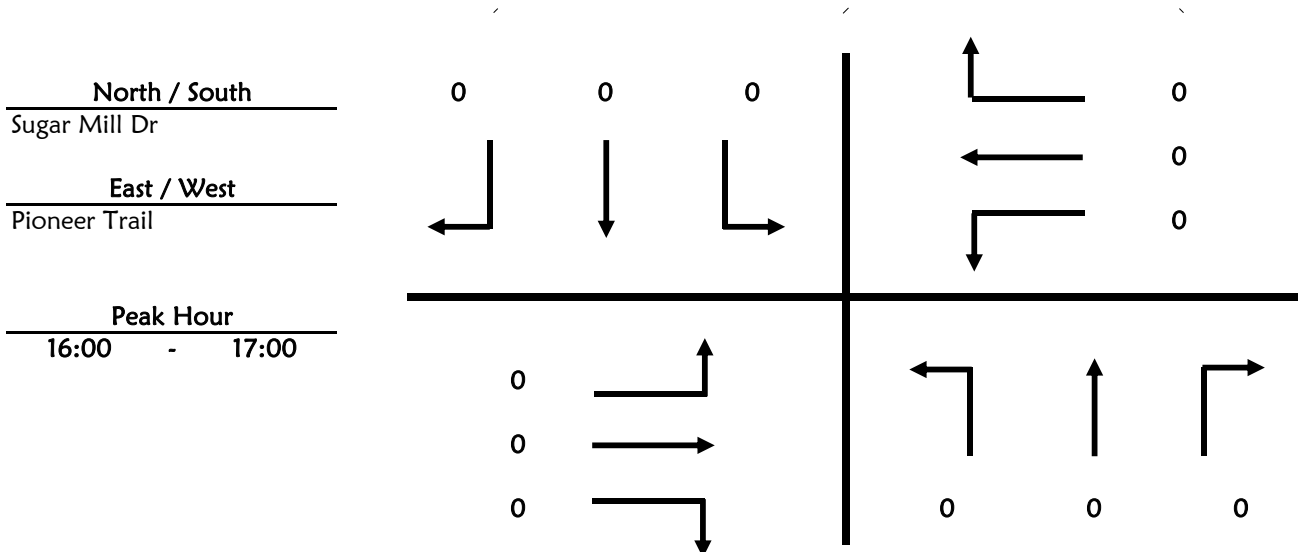
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Sugar Mill Dr & Pioneer Trail
 Date April 17, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

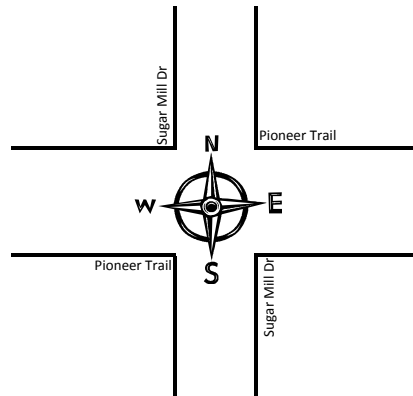
NB/SB: Sugar Mill Dr

Date: 4/17/2014

EB/WB: Pioneer Trail

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike									0	
	Ped				1					1	
Westbound	Bike		1							1	
	Ped									0	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00	1	1		
2	8:00	2			
3					
4	16:00	1	2	2	
5	17:00	1	1		
6					
7					
8					
		5	4	2	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00	1				1	7:00
2	8:00			1		2	8:00
3						3	
4	16:00					4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		1	0	1	0		

Eastbound	Bike									0
	Ped		1							1
Westbound	Bike									0
	Ped	1								1

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

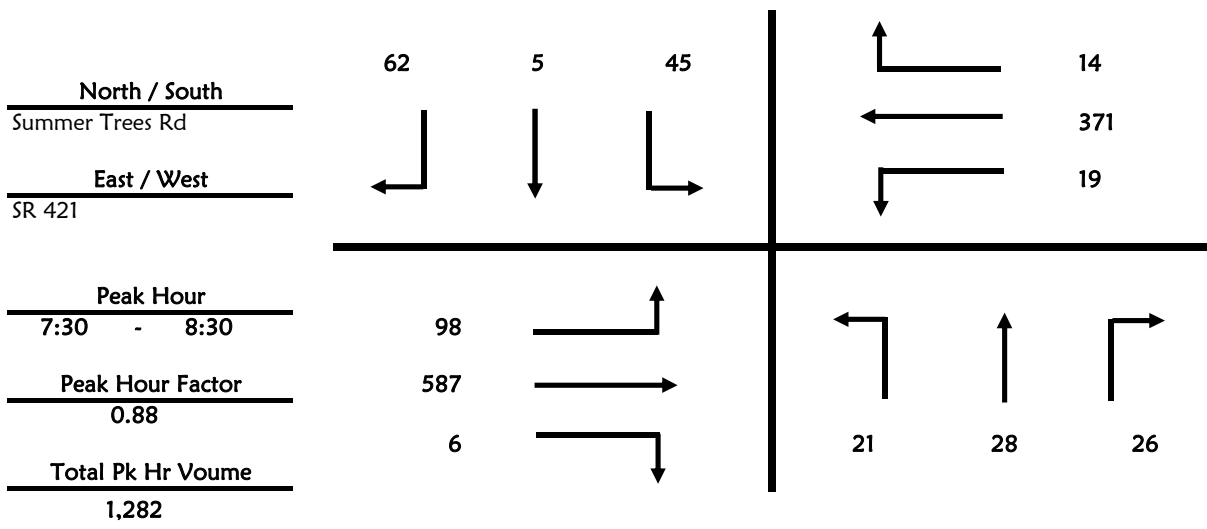
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Summer Trees Rd & SR 421
Date April 22, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	4	7	2	12	1	15
7:15 - 7:30	4	8	6	9	2	14
7:30 - 7:45	7	6	3	11	2	12
7:45 - 8:00	2	7	6	12	2	15
8:00 - 8:15	5	6	11	10	1	19
8:15 - 8:30	7	9	6	12	0	16
8:30 - 8:45	2	7	6	10	6	14
8:45 - 9:00	7	14	11	10	0	18
	38	64	51	86	14	123

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	19	147	0	3	62	2
7:15 - 7:30	14	142	0	2	70	4
7:30 - 7:45	26	198	3	3	87	5
7:45 - 8:00	20	137	0	7	110	1
8:00 - 8:15	21	108	1	4	93	3
8:15 - 8:30	31	144	2	5	81	5
8:30 - 8:45	30	124	1	7	85	4
8:45 - 9:00	19	109	1	6	70	3
	180	1,109	8	37	658	27



Roadway Count Summary

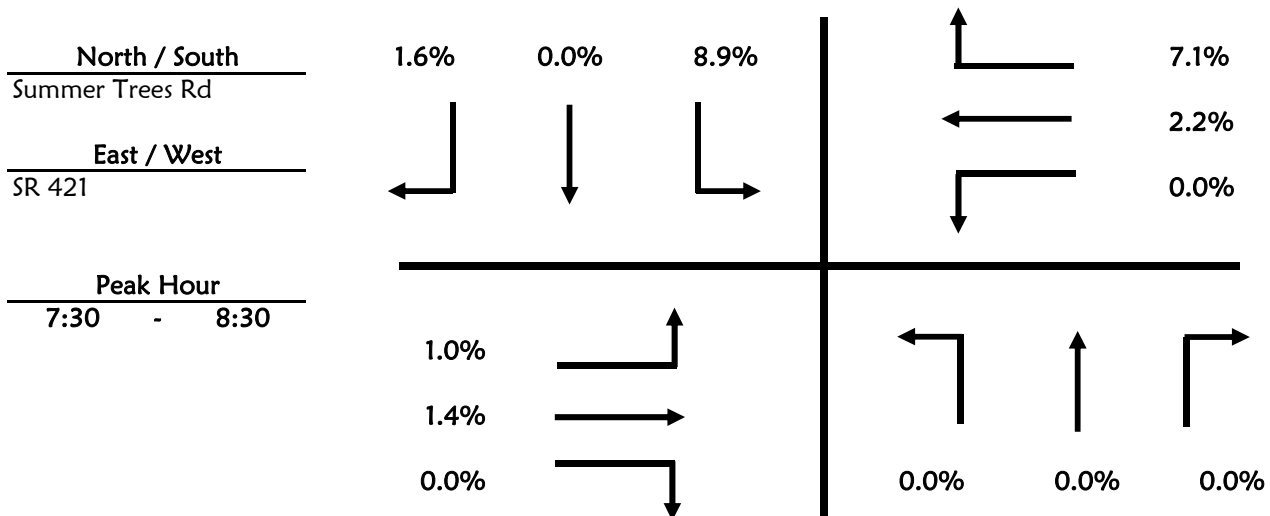
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Summer Trees Rd & SR 421
 Date April 22, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	2	0	1
7:15 - 7:30	0	0	0	0	0	1
7:30 - 7:45	0	0	0	1	0	0
7:45 - 8:00	0	0	0	0	0	1
8:00 - 8:15	0	0	0	2	0	0
8:15 - 8:30	0	0	0	1	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	1	0	0	0	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	2	0	0	2	0
7:15 - 7:30	0	0	0	0	0	1
7:30 - 7:45	0	3	0	0	0	0
7:45 - 8:00	1	0	0	0	3	0
8:00 - 8:15	0	0	0	0	3	0
8:15 - 8:30	0	5	0	0	2	1
8:30 - 8:45	0	4	0	0	1	0
8:45 - 9:00	0	1	1	0	2	0



Roadway Count Summary

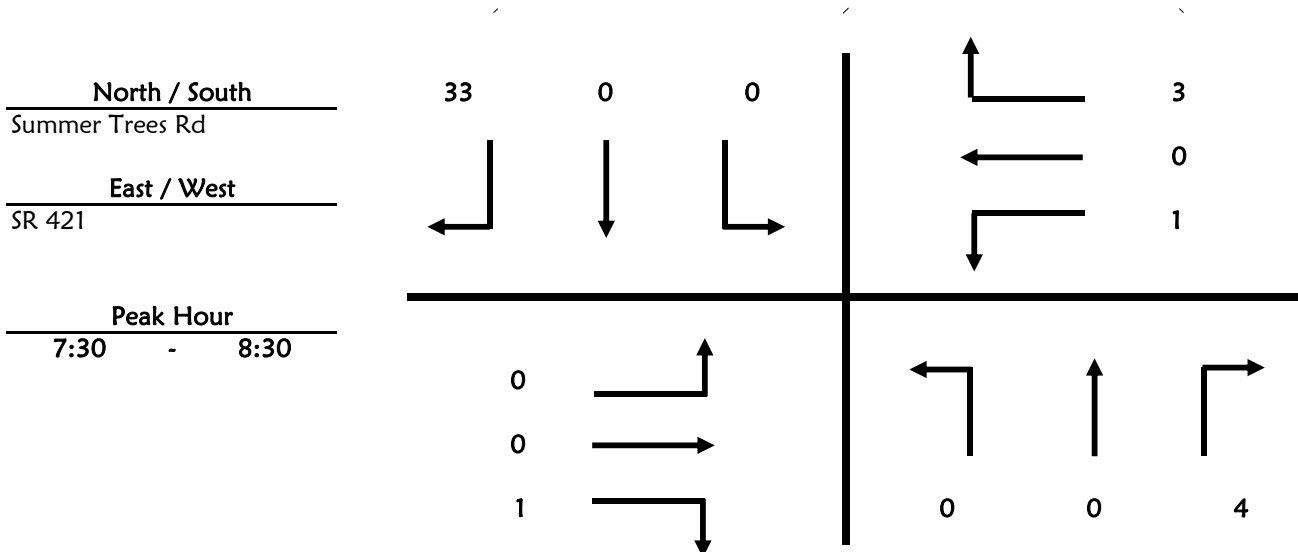
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Summer Trees Rd & SR 421
Date April 22, 2014
Time Period 7:00 to 9:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	1	0	9
7:15 - 7:30	0	0	4	0	0	8
7:30 - 7:45	0	0	1	0	0	5
7:45 - 8:00	0	0	0	0	0	8
8:00 - 8:15	0	0	2	0	0	9
8:15 - 8:30	0	0	1	0	0	11
8:30 - 8:45	0	0	0	0	0	9
8:45 - 9:00	0	0	1	0	0	10

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	0	0	0	1
7:15 - 7:30	0	0	0	0	0	2
7:30 - 7:45	0	0	1	0	0	1
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	1	0	0
8:15 - 8:30	0	0	0	0	0	2
8:30 - 8:45	0	0	0	0	0	1
8:45 - 9:00	0	2	0	1	0	0



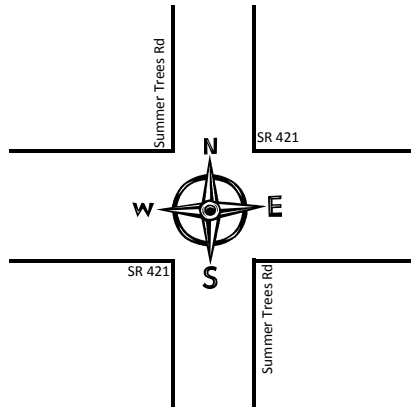
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/22/2014

NB/SB: Summer Trees Rd
 EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike	1	2			1				4	
	Ped	2			1					3	
Westbound	Bike									0	
	Ped				1					1	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00			1	
2	8:00				
3					
4	16:00				
5	17:00		2		
6					
7					
8					
		0	2	1	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00	2				1	7:00
2	8:00	1				2	8:00
3						3	
4	16:00	1				4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		4	0	0	0		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
		Hour								

Roadway Count Summary

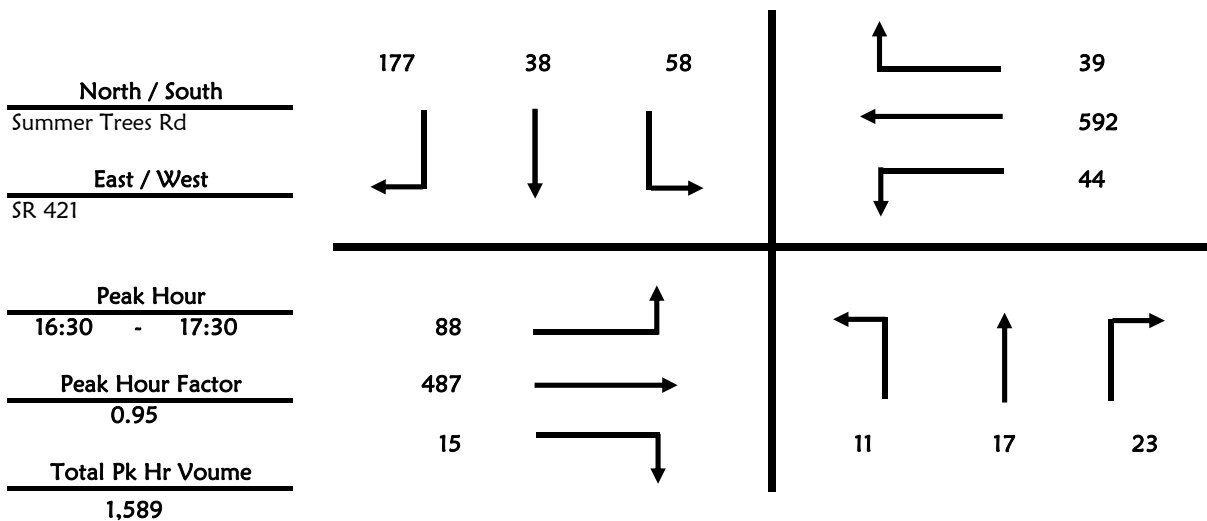
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Summer Trees Rd & SR 421
Date April 22, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	3	6	6	14	11	36
16:15 - 16:30	4	8	3	20	9	38
16:30 - 16:45	3	1	9	19	10	48
16:45 - 17:00	2	8	4	8	10	42
17:00 - 17:15	3	4	8	10	8	46
17:15 - 17:30	3	4	2	21	10	41
17:30 - 17:45	3	3	6	14	13	40
17:45 - 18:00	3	8	5	11	8	36
Total	24	42	43	117	79	327

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	24	96	2	13	136	12
16:15 - 16:30	20	116	0	22	134	10
16:30 - 16:45	22	122	5	10	141	9
16:45 - 17:00	26	109	4	6	146	11
17:00 - 17:15	18	126	1	15	142	15
17:15 - 17:30	22	130	5	13	163	4
17:30 - 17:45	26	105	3	11	140	6
17:45 - 18:00	13	102	9	11	139	11
Total	171	906	29	101	1,141	78



Roadway Count Summary

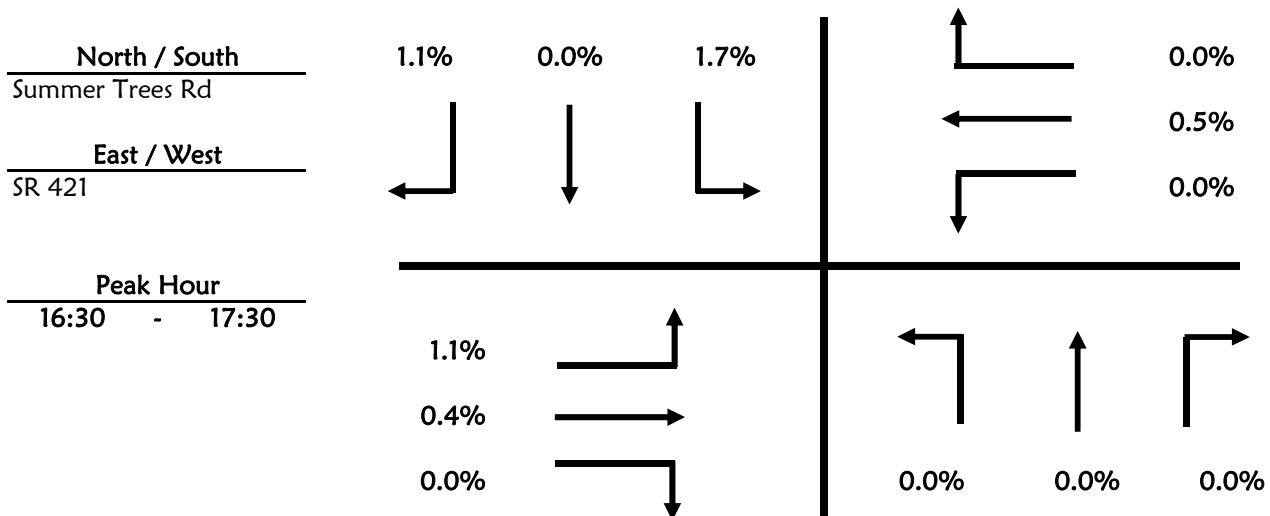
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Summer Trees Rd & SR 421
 Date April 22, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	1
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	0	0	0	1	0	0
17:15 - 17:30	0	0	0	0	0	1
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	1	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	3	0
16:15 - 16:30	0	2	0	0	1	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	1	0	0	0	0	0
17:00 - 17:15	0	2	0	0	1	0
17:15 - 17:30	0	0	0	0	2	0
17:30 - 17:45	0	0	0	0	2	0
17:45 - 18:00	0	1	0	0	1	1



Roadway Count Summary

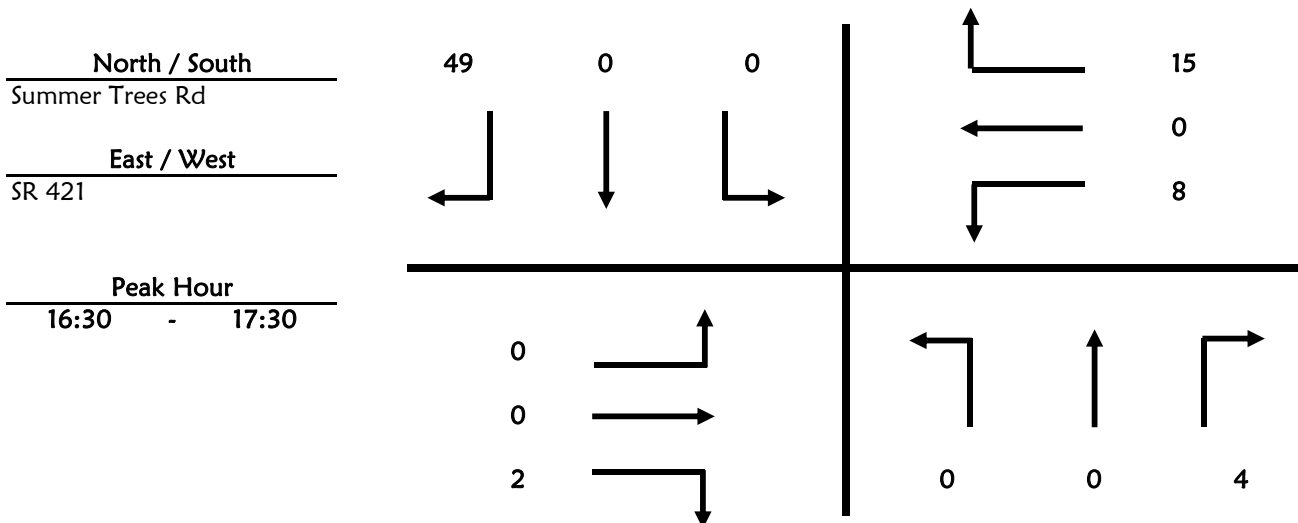
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Summer Trees Rd & SR 421
Date April 22, 2014
Time Period 16:00 to 18:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	13
16:15 - 16:30	0	0	1	0	0	15
16:30 - 16:45	0	0	2	0	0	18
16:45 - 17:00	0	0	0	0	0	12
17:00 - 17:15	0	0	1	0	0	10
17:15 - 17:30	0	0	1	0	0	9
17:30 - 17:45	0	0	0	0	0	8
17:45 - 18:00	0	0	0	0	0	14

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	1	0	3	0	3
16:15 - 16:30	0	0	0	4	1	3
16:30 - 16:45	0	0	0	3	0	3
16:45 - 17:00	0	0	1	1	0	4
17:00 - 17:15	0	0	0	1	0	6
17:15 - 17:30	0	0	1	3	0	2
17:30 - 17:45	0	0	0	1	0	3
17:45 - 18:00	0	0	0	4	0	2



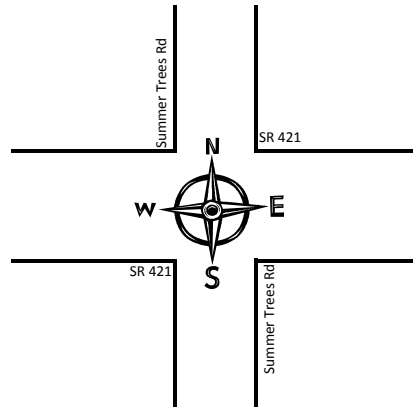
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/22/2014

NB/SB: Summer Trees Rd
 EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike	1	2			1				4	
	Ped	2			1					3	
Westbound	Bike									0	
	Ped				1					1	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00			1	
2	8:00				
3					
4	16:00				
5	17:00		2		
6					
7					
8					
		0	2	1	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00	2				1	7:00
2	8:00	1				2	8:00
3						3	
4	16:00	1				4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		4	0	0	0		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

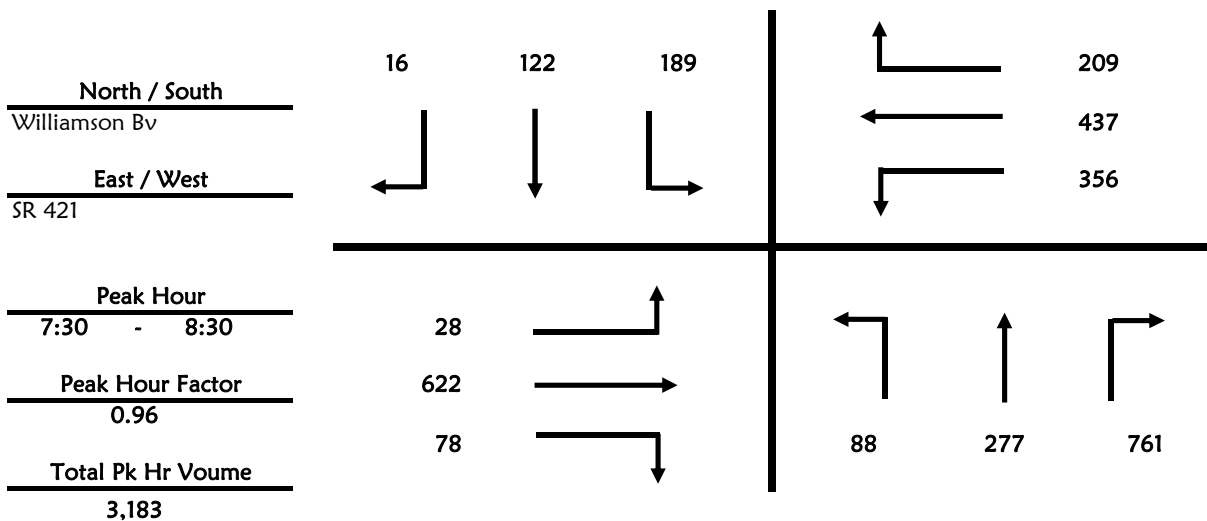
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Williamson Bv & SR 421
Date April 22, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	17	42	176	40	18	3
7:15 - 7:30	11	51	184	49	26	1
7:30 - 7:45	16	69	196	58	29	3
7:45 - 8:00	33	80	190	46	31	0
8:00 - 8:15	25	74	207	42	25	4
8:15 - 8:30	14	54	168	43	37	9
8:30 - 8:45	16	74	167	39	33	8
8:45 - 9:00	25	55	181	47	36	3
	157	499	1,469	364	235	31

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	6	173	9	59	82	30
7:15 - 7:30	2	152	19	100	88	34
7:30 - 7:45	3	179	32	88	92	39
7:45 - 8:00	10	162	12	78	120	70
8:00 - 8:15	7	120	19	99	122	53
8:15 - 8:30	8	161	15	91	103	47
8:30 - 8:45	13	142	21	101	97	59
8:45 - 9:00	8	109	18	67	101	67
	57	1,198	145	683	805	399



Roadway Count Summary

GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Williamson Bv & SR 421
 Date April 22, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	2	5	1	0
7:15 - 7:30	1	1	2	3	2	0
7:30 - 7:45	1	0	0	3	1	0
7:45 - 8:00	0	0	2	3	1	0
8:00 - 8:15	0	2	0	1	0	1
8:15 - 8:30	0	0	0	3	2	0
8:30 - 8:45	1	2	0	2	1	0
8:45 - 9:00	1	4	1	2	2	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	3	1	3	4	2
7:15 - 7:30	0	3	0	2	2	2
7:30 - 7:45	0	4	2	0	0	1
7:45 - 8:00	0	3	0	1	5	2
8:00 - 8:15	0	1	1	2	5	6
8:15 - 8:30	1	5	0	11	2	1
8:30 - 8:45	0	2	1	3	2	7
8:45 - 9:00	1	7	1	0	3	4



Roadway Count Summary

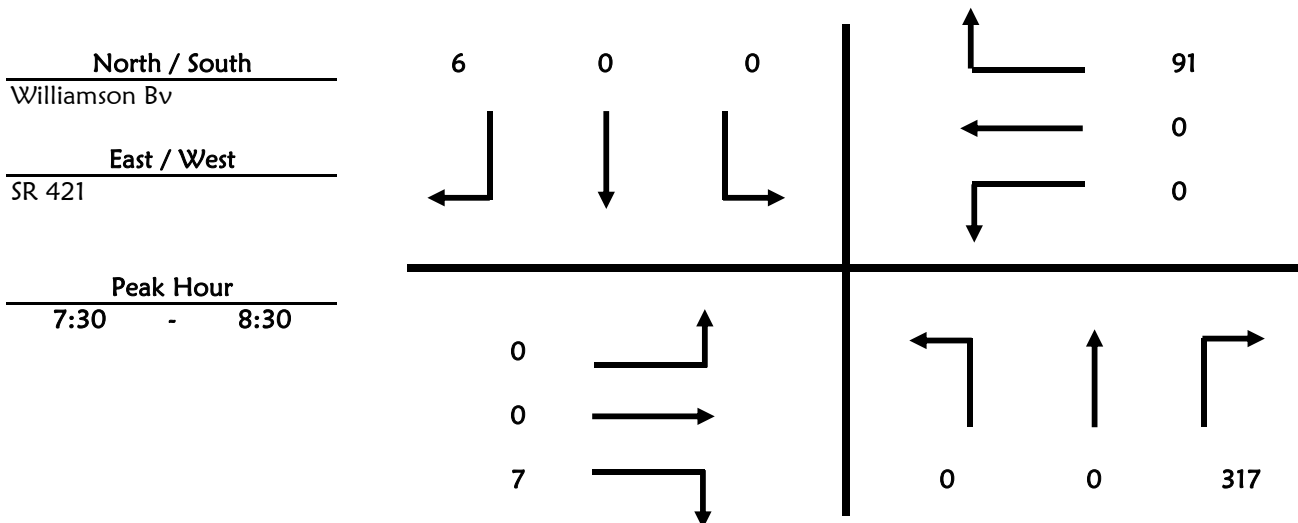
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Williamson Bv **&** SR 421
Date April 22, 2014
Time Period 7:00 to 9:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	38	0	0	1
7:15 - 7:30	0	0	79	0	0	1
7:30 - 7:45	0	0	90	0	0	2
7:45 - 8:00	0	0	68	0	0	0
8:00 - 8:15	0	0	88	0	0	0
8:15 - 8:30	0	0	71	0	0	4
8:30 - 8:45	0	0	63	0	0	1
8:45 - 9:00	0	0	102	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	2	0	0	13
7:15 - 7:30	0	0	2	0	0	9
7:30 - 7:45	0	0	0	0	0	23
7:45 - 8:00	0	0	2	0	0	32
8:00 - 8:15	0	0	3	0	0	14
8:15 - 8:30	0	0	2	0	0	22
8:30 - 8:45	0	0	3	0	0	20
8:45 - 9:00	0	0	8	0	0	23



Pedestrian & Bicycle Summary

Project #: 12-033.01

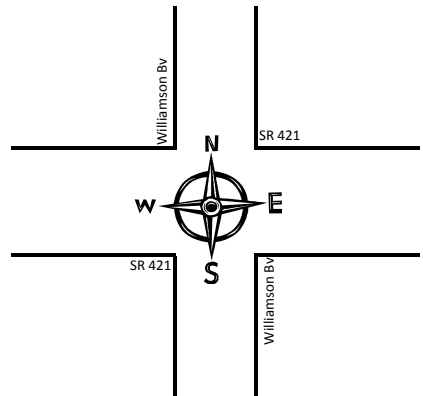
NB/SB: Williamson Bv

Date: 4/22/2014

EB/WB: SR 421

		Hour								
		7:00	8:00	16:00	17:00					
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00			1	
2	8:00			1	
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	2	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00					1	7:00
2	8:00					2	8:00
3						3	
4	16:00					4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		0	0	0	0		

Eastbound	Bike								0
	Ped		1						1
Westbound	Bike								0
	Ped								0

7:00	8:00	16:00	17:00
1	2	3	4
5	6	7	8

Hour

Roadway Count Summary

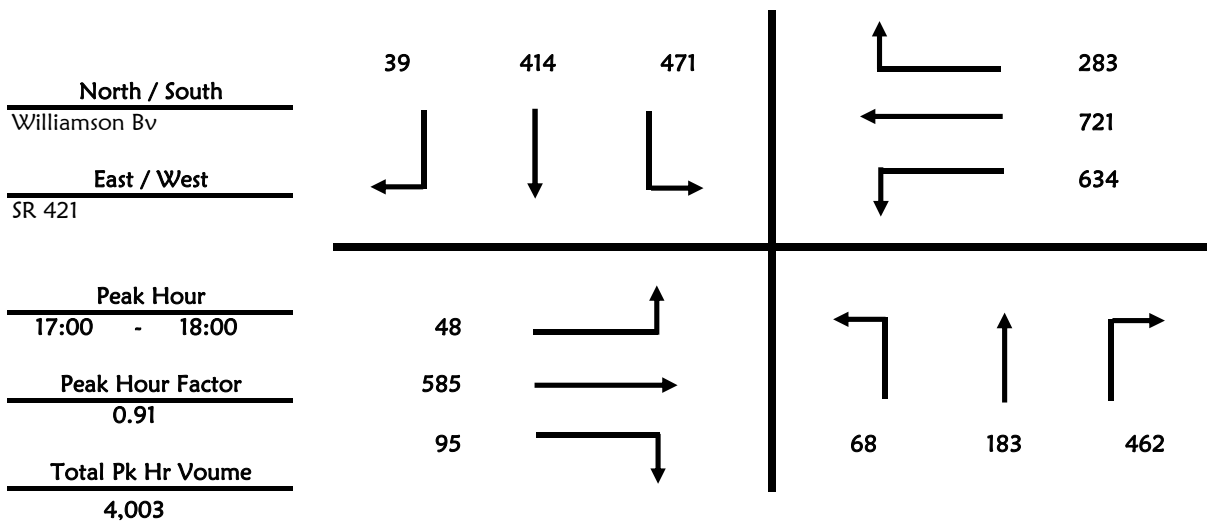
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Williamson Bv & SR 421
Date April 22, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	26	51	150	140	103	4
16:15 - 16:30	16	43	88	89	77	4
16:30 - 16:45	25	55	122	117	84	4
16:45 - 17:00	20	44	101	108	79	6
17:00 - 17:15	18	46	106	124	97	4
17:15 - 17:30	15	55	145	128	125	9
17:30 - 17:45	20	39	101	127	115	16
17:45 - 18:00	15	43	110	92	77	10
	155	376	923	925	757	57

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	9	128	19	126	174	82
16:15 - 16:30	15	160	33	128	234	74
16:30 - 16:45	16	130	19	146	156	82
16:45 - 17:00	12	138	24	122	192	67
17:00 - 17:15	17	128	22	138	183	58
17:15 - 17:30	11	145	26	180	181	81
17:30 - 17:45	11	170	14	157	172	64
17:45 - 18:00	9	142	33	159	185	80
	100	1,141	190	1,156	1,477	588



Roadway Count Summary

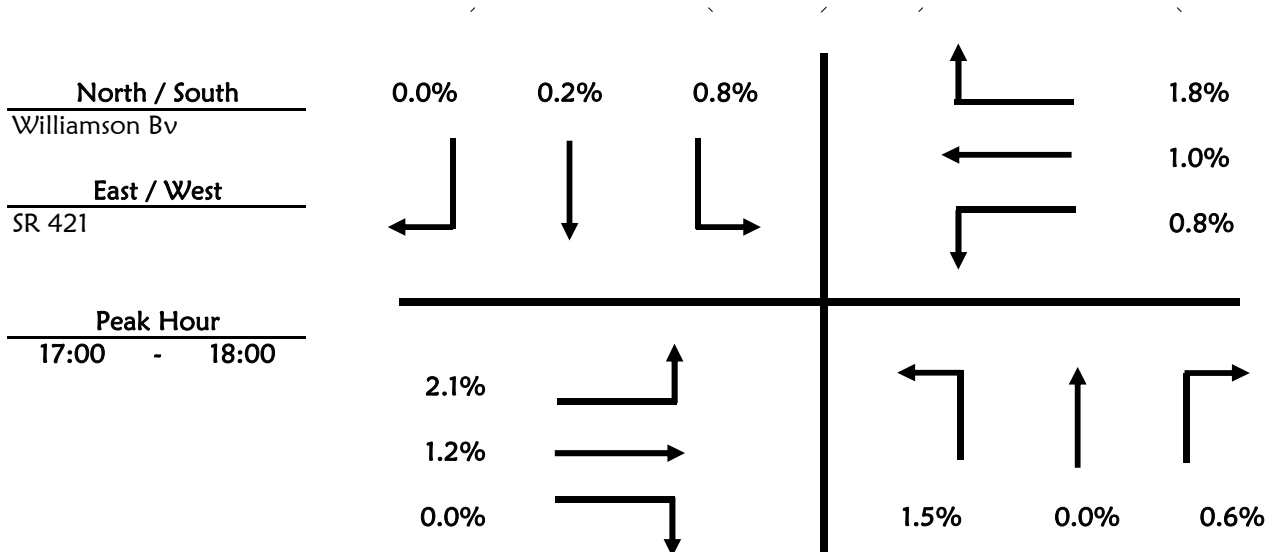
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Williamson Bv & SR 421
 Date April 22, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	2	1	3	2	0
16:15 - 16:30	0	2	1	1	0	0
16:30 - 16:45	1	1	0	2	0	1
16:45 - 17:00	0	0	0	2	0	0
17:00 - 17:15	1	0	0	2	0	0
17:15 - 17:30	0	0	1	0	0	0
17:30 - 17:45	0	0	2	2	1	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	2	1	1	3	1
16:15 - 16:30	0	3	0	1	2	4
16:30 - 16:45	0	2	0	2	3	1
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	1	3	0	1	1	1
17:15 - 17:30	0	0	0	2	3	3
17:30 - 17:45	0	2	0	2	1	0
17:45 - 18:00	0	2	0	0	2	1



Roadway Count Summary

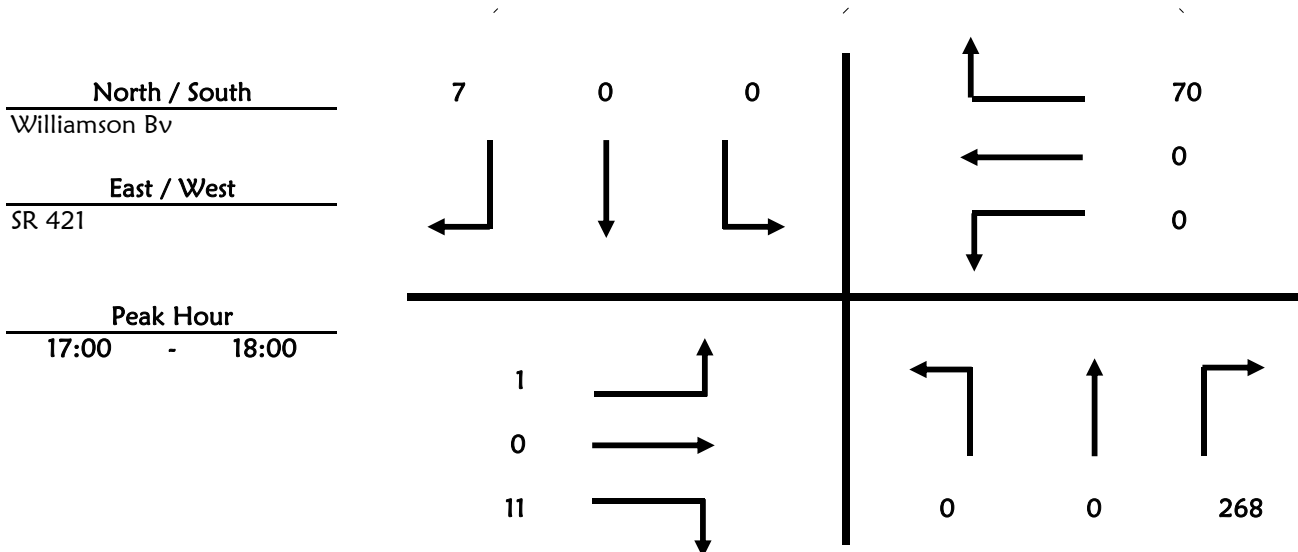
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Williamson Bv & SR 421
 Date April 22, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	79	0	0	1
16:15 - 16:30	0	0	55	0	0	2
16:30 - 16:45	0	0	67	1	0	0
16:45 - 17:00	0	0	51	0	0	1
17:00 - 17:15	0	0	59	0	0	0
17:15 - 17:30	0	0	71	0	0	1
17:30 - 17:45	0	0	65	0	0	4
17:45 - 18:00	0	0	73	0	0	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	31
16:15 - 16:30	0	0	4	0	0	26
16:30 - 16:45	0	0	3	0	0	32
16:45 - 17:00	0	0	3	1	0	13
17:00 - 17:15	0	0	3	0	0	26
17:15 - 17:30	1	0	2	0	0	16
17:30 - 17:45	0	0	3	0	0	13
17:45 - 18:00	0	0	3	0	0	15



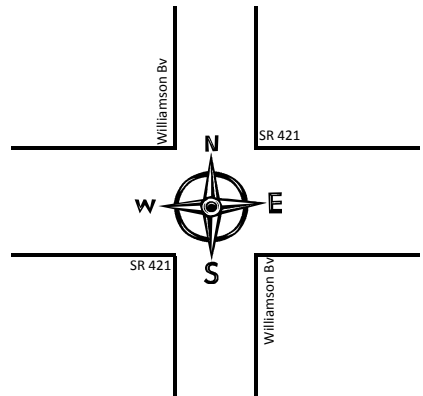
Pedestrian & Bicycle Summary

Project #: 12-033.01
 Date: 4/22/2014

NB/SB: Williamson Bv
 EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike									0	
	Ped									0	
Westbound	Bike									0	
	Ped									0	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00			1	
2	8:00			1	
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	2	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike									0
	Ped		1							1
Westbound	Bike									0
	Ped									0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

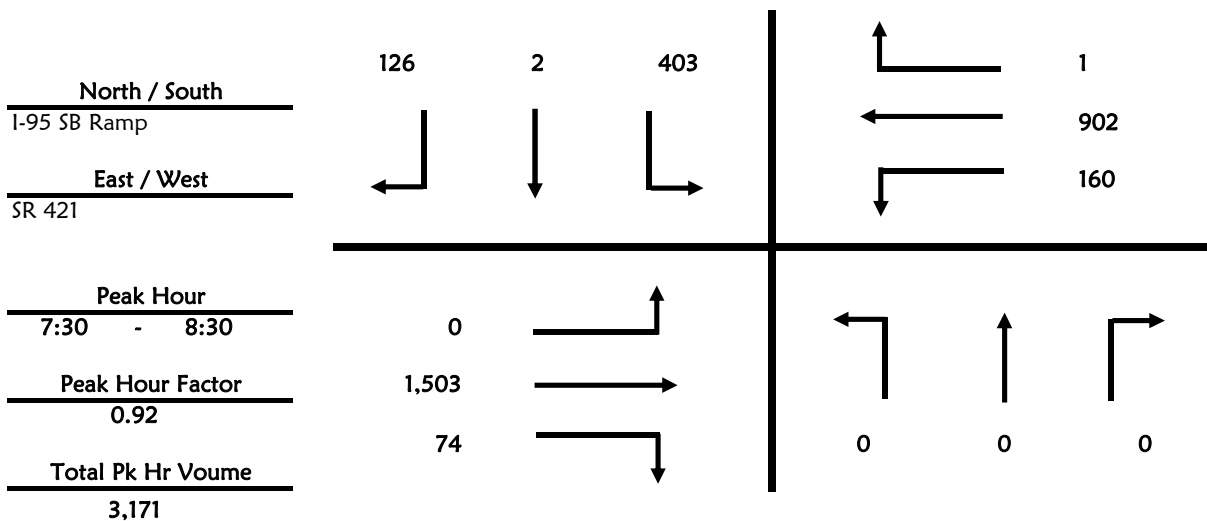
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 SB Ramp & SR 421
Date May 12, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	117	0	22
7:15 - 7:30	0	0	0	102	0	21
7:30 - 7:45	0	0	0	111	0	39
7:45 - 8:00	0	0	0	109	2	25
8:00 - 8:15	0	0	0	70	0	33
8:15 - 8:30	0	0	0	113	0	29
8:30 - 8:45	0	0	0	102	0	35
8:45 - 9:00	0	0	0	84	0	29
	0	0	0	808	2	233

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	301	19	45	156	0
7:15 - 7:30	0	370	19	39	169	13
7:30 - 7:45	0	396	20	38	180	0
7:45 - 8:00	0	394	28	35	270	0
8:00 - 8:15	0	367	14	39	220	1
8:15 - 8:30	0	346	12	48	232	0
8:30 - 8:45	0	341	16	39	223	0
8:45 - 9:00	0	371	15	36	174	0
	0	2,886	143	319	1,624	14



Roadway Count Summary

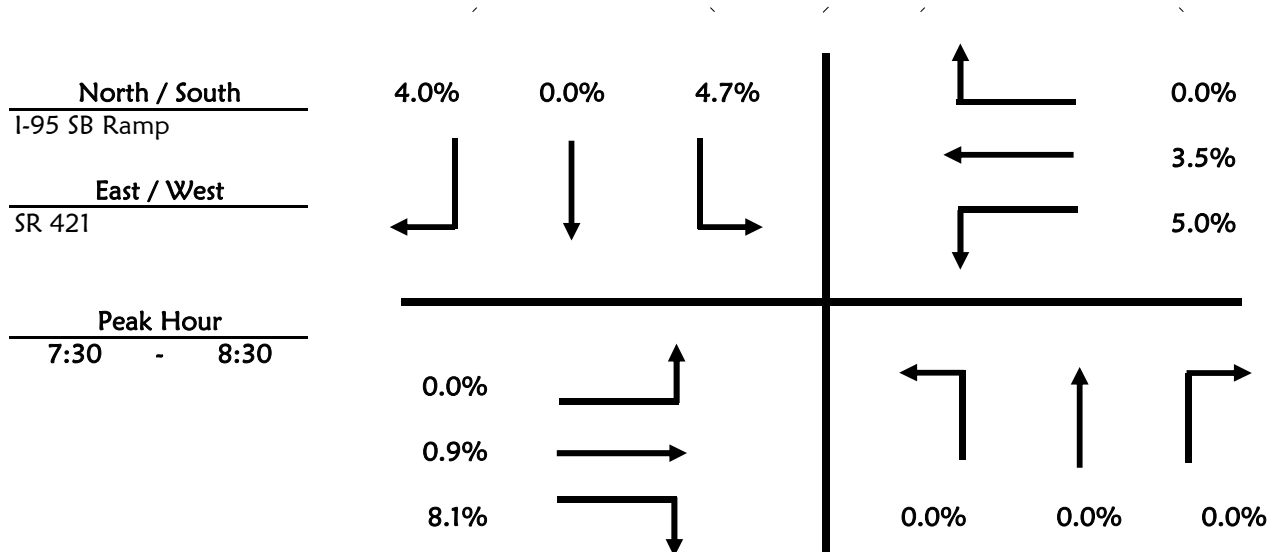
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 SB Ramp & SR 421
 Date May 12, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	8	0	3
7:15 - 7:30	0	0	0	6	0	3
7:30 - 7:45	0	0	0	5	0	1
7:45 - 8:00	0	0	0	7	0	1
8:00 - 8:15	0	0	0	5	0	2
8:15 - 8:30	0	0	0	2	0	1
8:30 - 8:45	0	0	0	5	0	2
8:45 - 9:00	0	0	0	4	0	3

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	8	2	2	3	0
7:15 - 7:30	0	7	1	1	1	0
7:30 - 7:45	0	6	1	1	3	0
7:45 - 8:00	0	4	0	0	6	0
8:00 - 8:15	0	0	2	2	6	0
8:15 - 8:30	0	3	3	5	17	0
8:30 - 8:45	0	8	2	0	4	0
8:45 - 9:00	0	3	0	3	4	0



Roadway Count Summary

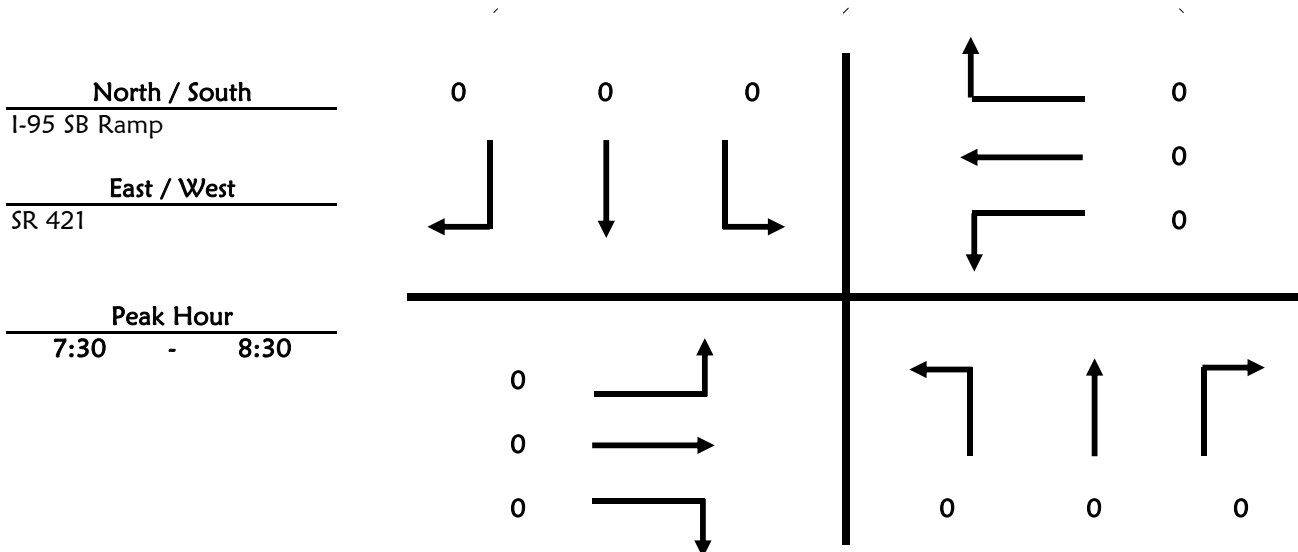
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 SB Ramp & SR 421
 Date May 12, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	1	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

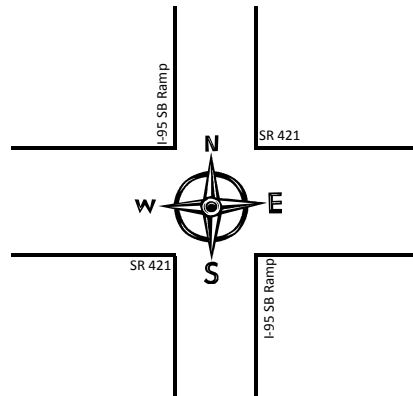
NB/SB: I-95 SB Ramp

Date: 5/12/2014

EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike				1					1	
	Ped				1	2				3	
Westbound	Bike	1	1		2	1				5	
	Ped		1							1	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike	2			2	4				8
	Ped	1			1					2
Westbound	Bike		2							2
	Ped									0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

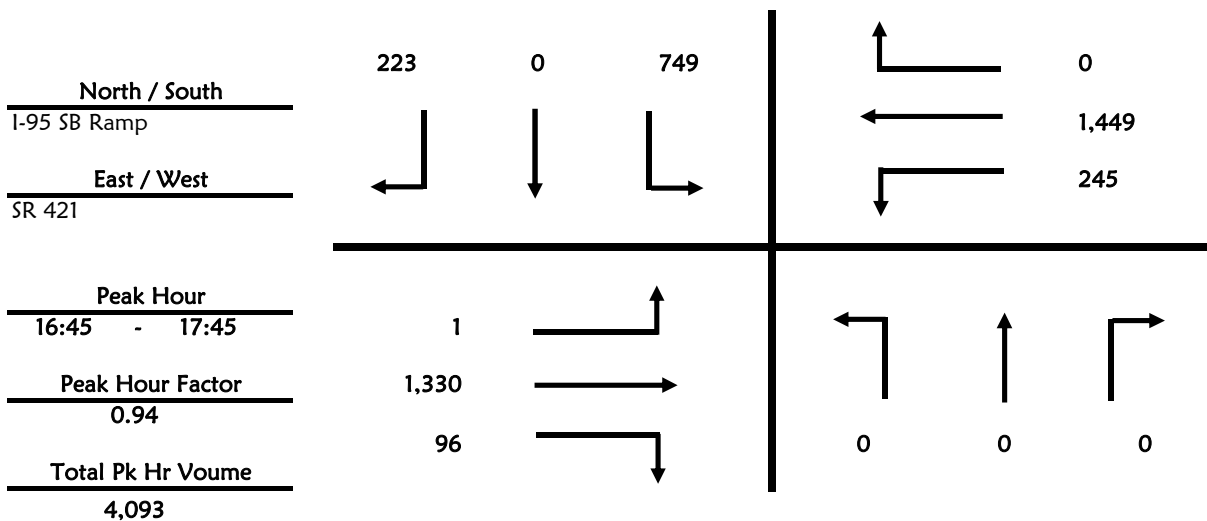
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 SB Ramp & SR 421
Date May 12, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	115	0	32
16:15 - 16:30	0	0	0	161	0	63
16:30 - 16:45	0	0	0	127	0	46
16:45 - 17:00	0	0	0	180	0	54
17:00 - 17:15	0	0	0	194	0	53
17:15 - 17:30	0	0	0	193	0	55
17:30 - 17:45	0	0	0	182	0	61
17:45 - 18:00	0	0	0	133	0	50
	0	0	0	1,285	0	414

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	381	33	59	378	7
16:15 - 16:30	24	280	20	82	311	0
16:30 - 16:45	0	335	16	65	373	0
16:45 - 17:00	0	318	9	49	354	0
17:00 - 17:15	0	329	40	77	326	0
17:15 - 17:30	1	345	22	63	414	0
17:30 - 17:45	0	338	25	56	355	0
17:45 - 18:00	0	334	19	51	290	0
	25	2,660	184	502	2,801	7



Roadway Count Summary

GMB Engineers & Planners, Inc.

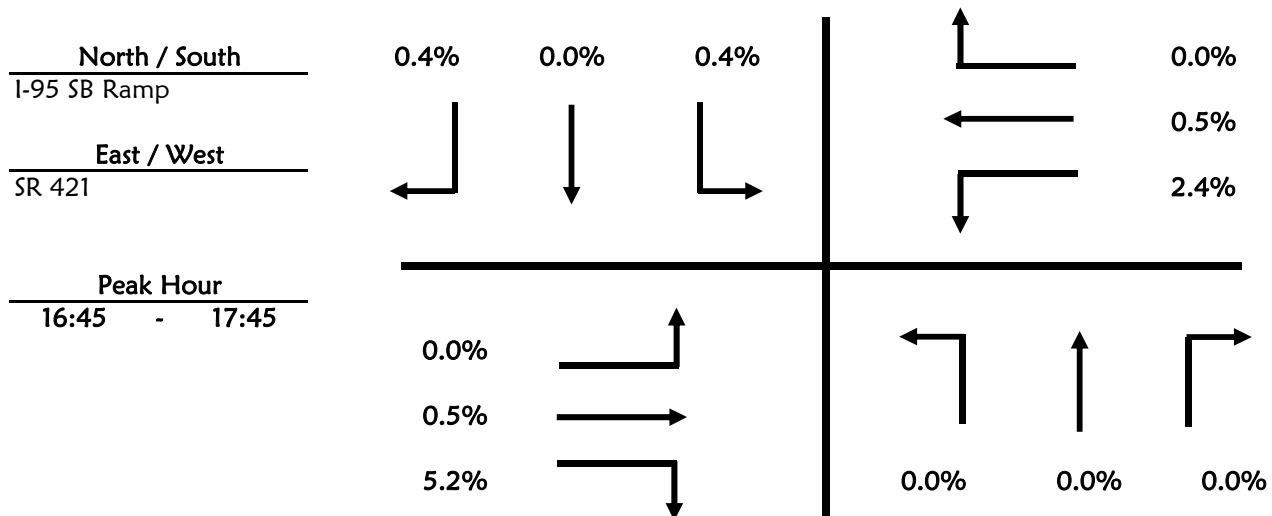
County Volusia **City** 0
Intersection I-95 SB Ramp **&** SR 421
Date May 12, 2014
Time Period 16:00 to 18:00

Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	2	0	2
16:15 - 16:30	0	0	0	6	0	0
16:30 - 16:45	0	0	0	0	0	1
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	2	0	0
17:30 - 17:45	0	0	0	1	0	1
17:45 - 18:00	0	0	0	0	0	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	6	3	2	2	0
16:15 - 16:30	0	1	0	0	3	0
16:30 - 16:45	0	5	0	0	4	0
16:45 - 17:00	0	4	0	4	4	0
17:00 - 17:15	0	1	2	1	0	0
17:15 - 17:30	0	0	1	0	0	0
17:30 - 17:45	0	2	2	1	3	0
17:45 - 18:00	0	2	0	0	1	0



Roadway Count Summary

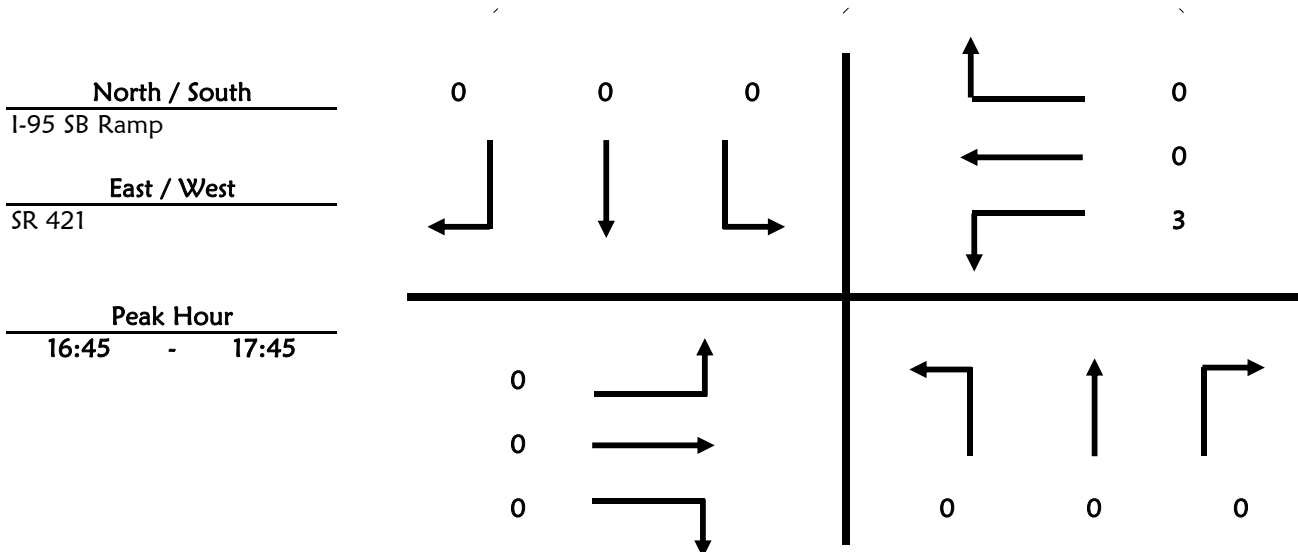
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 SB Ramp & SR 421
 Date May 12, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	1	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	3	0	0
17:45 - 18:00	0	0	0	1	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

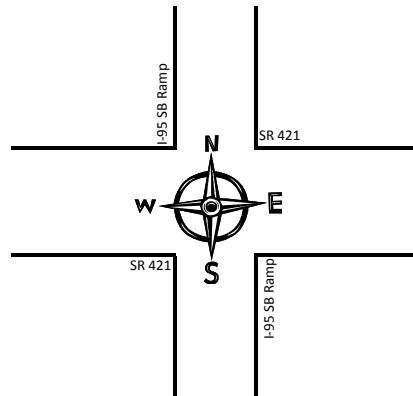
NB/SB: I-95 SB Ramp

Date: 5/12/2014

EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike				1					1	
	Ped				1	2				3	
Westbound	Bike	1	1		2	1				5	
	Ped		1							1	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike	2			2	4				8
	Ped	1			1					2
Westbound	Bike		2							2
	Ped									0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

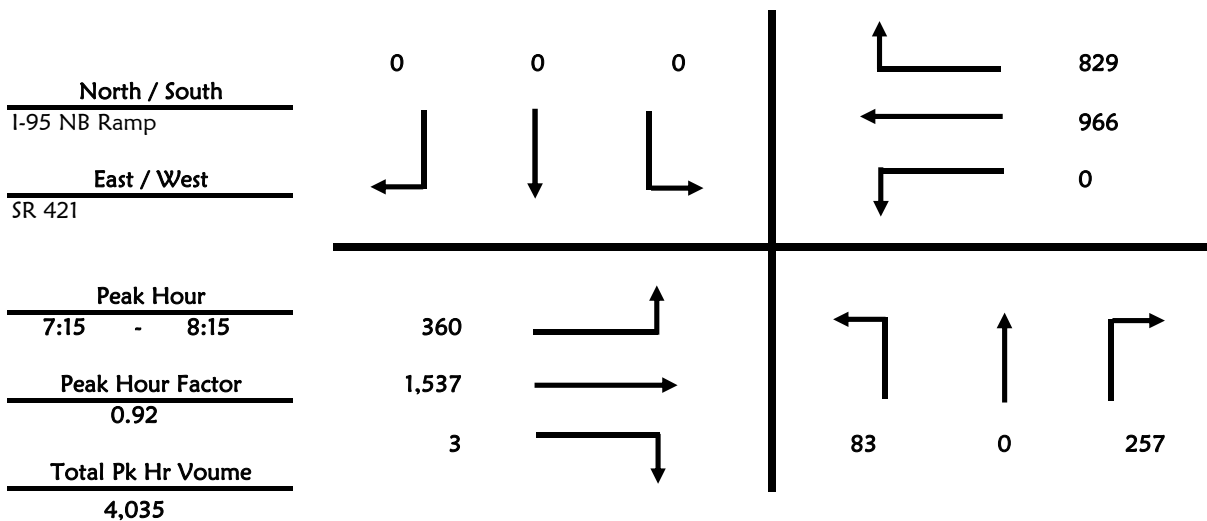
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp & SR 421
Date May 6, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	12	0	72	0	0	0
7:15 - 7:30	18	0	69	0	0	0
7:30 - 7:45	20	0	66	0	0	0
7:45 - 8:00	29	0	83	0	0	0
8:00 - 8:15	16	0	39	0	0	0
8:15 - 8:30	19	0	56	0	0	0
8:30 - 8:45	19	0	61	0	0	0
8:45 - 9:00	20	0	47	0	0	0
	153	0	493	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	64	397	0	0	198	168
7:15 - 7:30	76	388	2	0	220	200
7:30 - 7:45	103	422	0	0	230	258
7:45 - 8:00	77	393	1	0	259	201
8:00 - 8:15	104	334	0	0	257	170
8:15 - 8:30	81	344	0	0	230	184
8:30 - 8:45	75	393	0	0	237	143
8:45 - 9:00	57	368	0	0	217	158
	637	3,039	3	0	1,848	1,482



Roadway Count Summary

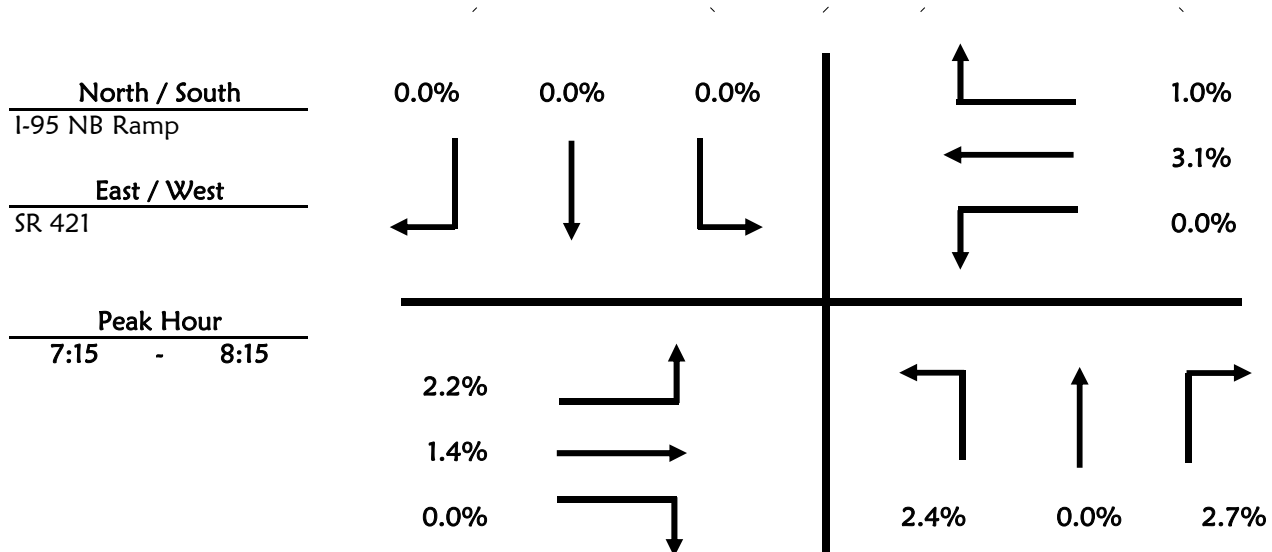
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 NB Ramp & SR 421
 Date May 6, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	2	0	0	0
7:15 - 7:30	0	0	3	0	0	0
7:30 - 7:45	0	0	2	0	0	0
7:45 - 8:00	1	0	0	0	0	0
8:00 - 8:15	1	0	2	0	0	0
8:15 - 8:30	0	0	2	0	0	0
8:30 - 8:45	0	0	3	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	2	7	0	0	8	2
7:15 - 7:30	2	4	0	0	11	1
7:30 - 7:45	4	7	0	0	5	1
7:45 - 8:00	0	5	0	0	5	5
8:00 - 8:15	2	5	0	0	9	1
8:15 - 8:30	4	4	0	0	18	3
8:30 - 8:45	3	6	0	0	8	2
8:45 - 9:00	3	8	0	0	7	6



Roadway Count Summary

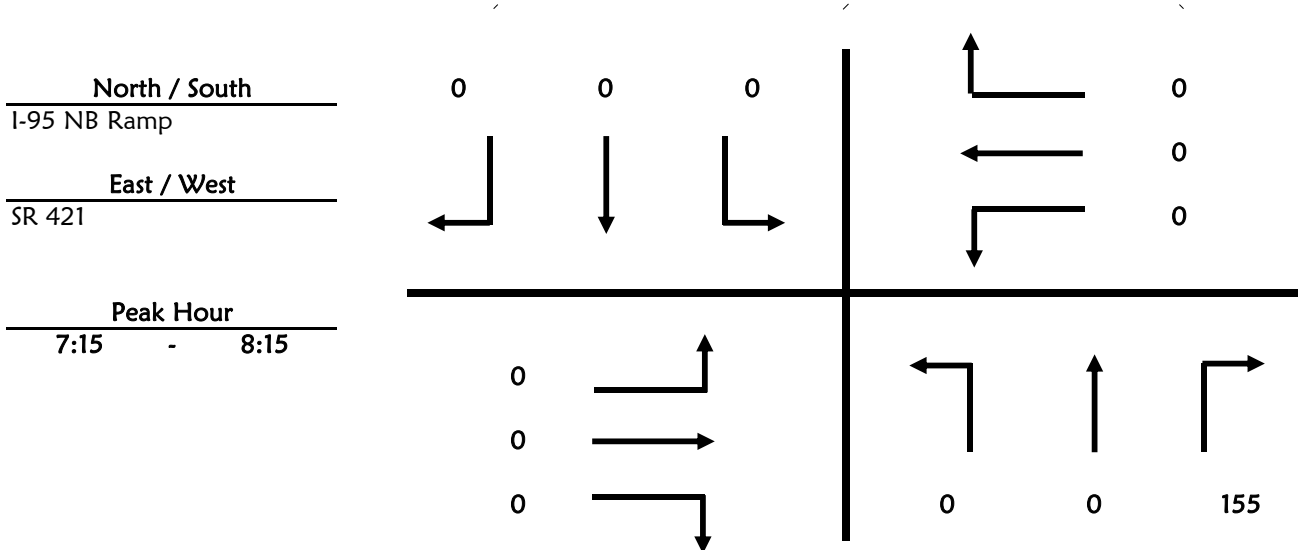
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp & SR 421
Date May 6, 2014
Time Period 7:00 to 9:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	40	0	0	0
7:15 - 7:30	0	0	44	0	0	0
7:30 - 7:45	0	0	25	0	0	0
7:45 - 8:00	0	0	52	0	0	0
8:00 - 8:15	0	0	34	0	0	0
8:15 - 8:30	0	0	45	0	0	0
8:30 - 8:45	0	0	41	0	0	0
8:45 - 9:00	0	0	38	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

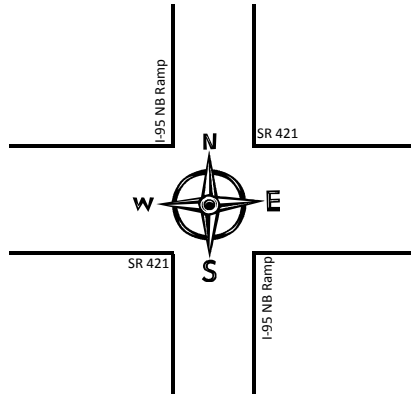
NB/SB: I-95 NB Ramp

Date: 5/6/2014

EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike	1	1		1	4					7
	Ped		2								2
Westbound	Bike	3	5		3	2					13
	Ped	1									1

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike	1	1			2					4
	Ped										0
Westbound	Bike	1	1		1						3
	Ped										0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

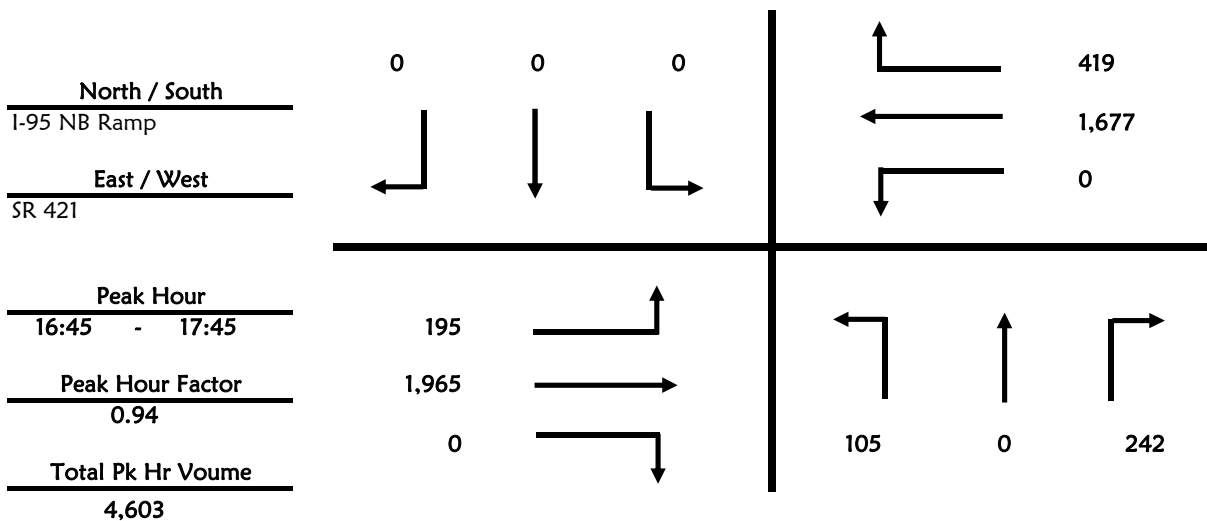
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp & SR 421
Date May 6, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	37	0	36	0	0	0
16:15 - 16:30	28	0	58	0	0	0
16:30 - 16:45	26	0	49	0	0	0
16:45 - 17:00	31	0	56	0	0	0
17:00 - 17:15	20	0	53	0	0	0
17:15 - 17:30	29	0	63	0	0	0
17:30 - 17:45	25	0	70	0	0	0
17:45 - 18:00	22	1	39	0	0	0
Total	218	1	424	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	61	404	0	0	382	111
16:15 - 16:30	32	466	0	1	418	128
16:30 - 16:45	43	374	0	0	429	133
16:45 - 17:00	50	422	0	0	380	103
17:00 - 17:15	44	511	0	0	442	120
17:15 - 17:30	53	542	0	0	441	100
17:30 - 17:45	48	490	0	0	414	96
17:45 - 18:00	35	449	0	0	384	77
Total	366	3,658	0	1	3,290	868



Roadway Count Summary

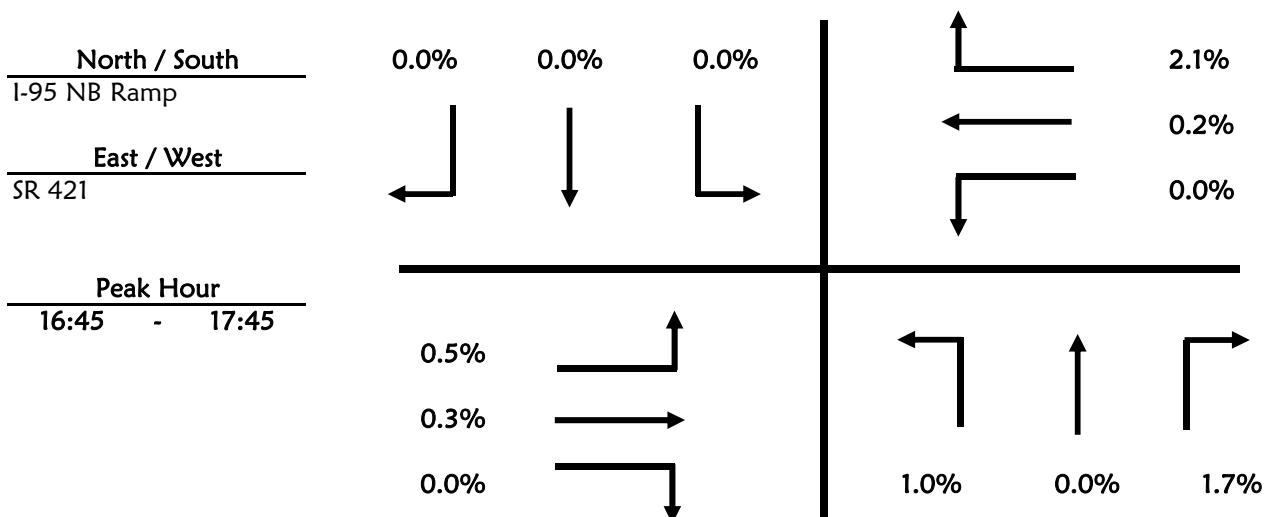
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection I-95 NB Ramp & SR 421
 Date May 6, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	2	0	0	0	0	0
16:15 - 16:30	0	0	1	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	1	0	2	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	1	0	0	0
17:30 - 17:45	0	0	1	0	0	0
17:45 - 18:00	1	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	4	0	0	1	5
16:15 - 16:30	0	8	0	0	7	3
16:30 - 16:45	0	5	0	0	3	1
16:45 - 17:00	0	3	0	0	2	3
17:00 - 17:15	1	1	0	0	1	1
17:15 - 17:30	0	2	0	0	1	5
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	5	0	0	2	2



Roadway Count Summary

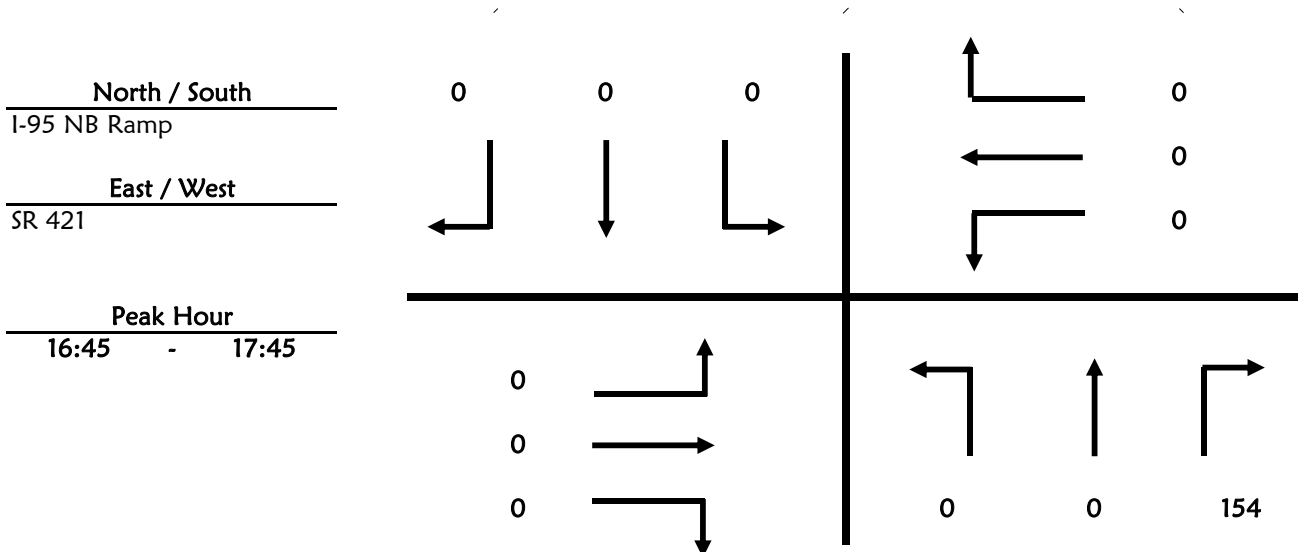
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection I-95 NB Ramp & SR 421
Date May 6, 2014
Time Period 16:00 to 18:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	33	0	0	0
16:15 - 16:30	0	0	28	0	0	0
16:30 - 16:45	0	0	39	0	0	0
16:45 - 17:00	0	0	41	0	0	0
17:00 - 17:15	0	0	37	0	0	0
17:15 - 17:30	0	0	27	0	0	0
17:30 - 17:45	0	0	49	0	0	0
17:45 - 18:00	0	0	29	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	1	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

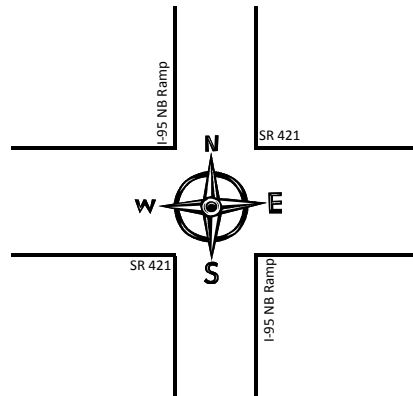
NB/SB: I-95 NB Ramp

Date: 5/6/2014

EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike	1	1		1	4				7	
	Ped		2							2	
Westbound	Bike	3	5		3	2				13	
	Ped	1								1	

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00				
6					
7					
8					
		0	0	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike	1	1			2				4
	Ped									0
Westbound	Bike	1	1		1					3
	Ped									0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

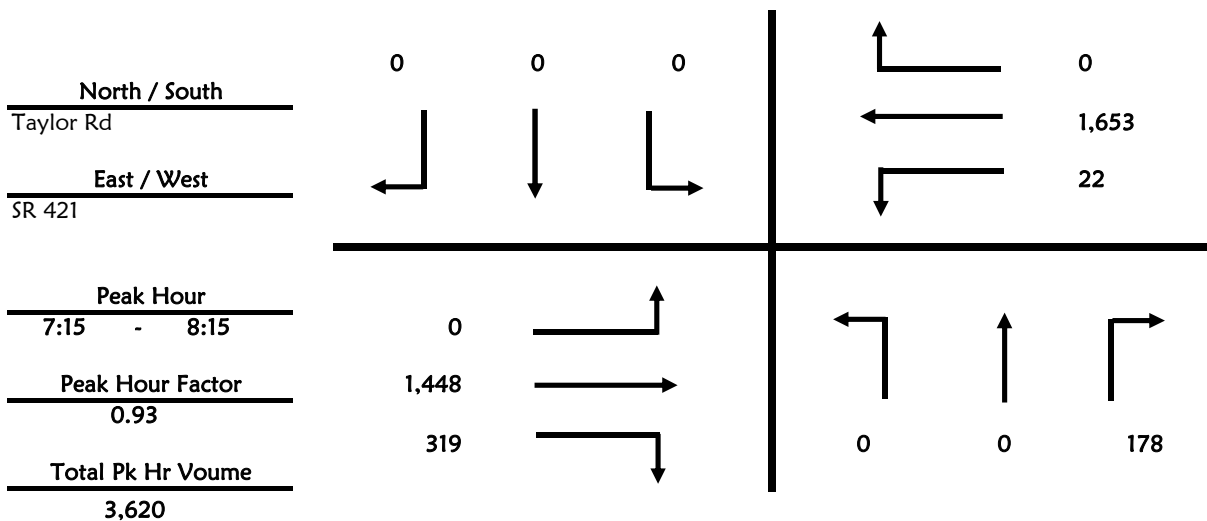
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Taylor Rd & SR 421
Date May 6, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	30	1	0	0
7:15 - 7:30	0	0	35	0	0	0
7:30 - 7:45	0	0	40	0	0	0
7:45 - 8:00	0	0	53	0	0	0
8:00 - 8:15	0	0	50	0	0	0
8:15 - 8:30	0	0	36	0	0	0
8:30 - 8:45	0	0	42	0	0	0
8:45 - 9:00	0	0	50	0	0	0
Total	0	0	336	1	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	305	139	3	322	0
7:15 - 7:30	0	344	92	6	374	0
7:30 - 7:45	0	387	90	3	455	0
7:45 - 8:00	0	387	79	8	424	0
8:00 - 8:15	0	330	58	5	400	0
8:15 - 8:30	0	336	63	4	395	0
8:30 - 8:45	0	352	69	13	341	0
8:45 - 9:00	2	365	66	8	346	0
Total	2	2,806	656	50	3,057	0



Roadway Count Summary

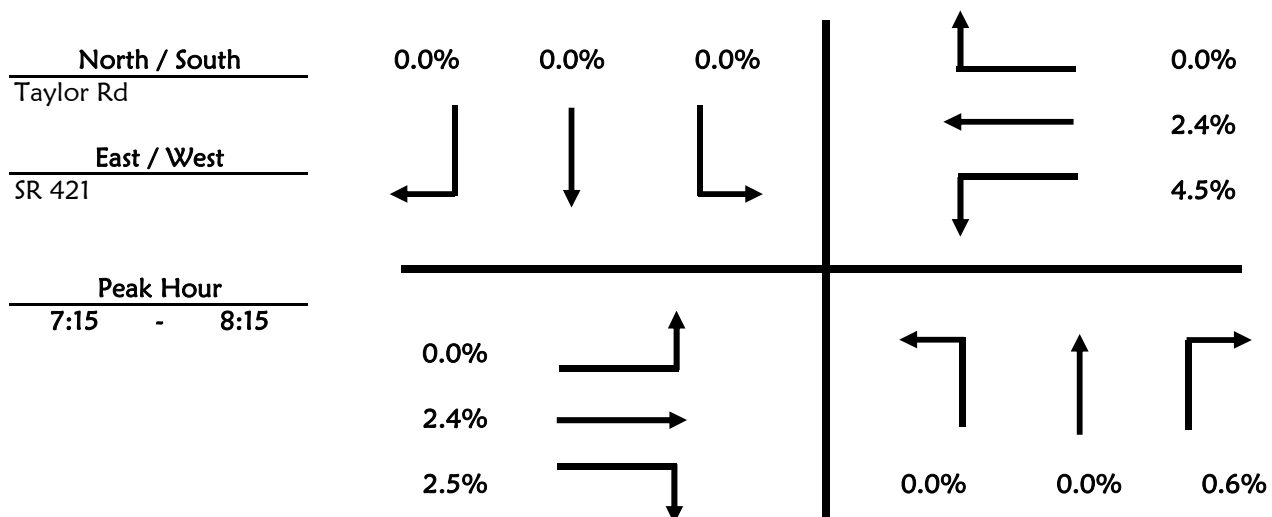
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Taylor Rd & SR 421
 Date May 6, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	1	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	2	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	13	0	0	10	0
7:15 - 7:30	0	11	1	0	12	0
7:30 - 7:45	0	11	3	1	6	0
7:45 - 8:00	0	6	3	0	12	0
8:00 - 8:15	0	7	1	0	9	0
8:15 - 8:30	0	6	1	0	22	0
8:30 - 8:45	0	10	5	0	10	0
8:45 - 9:00	0	7	1	0	14	0



Roadway Count Summary

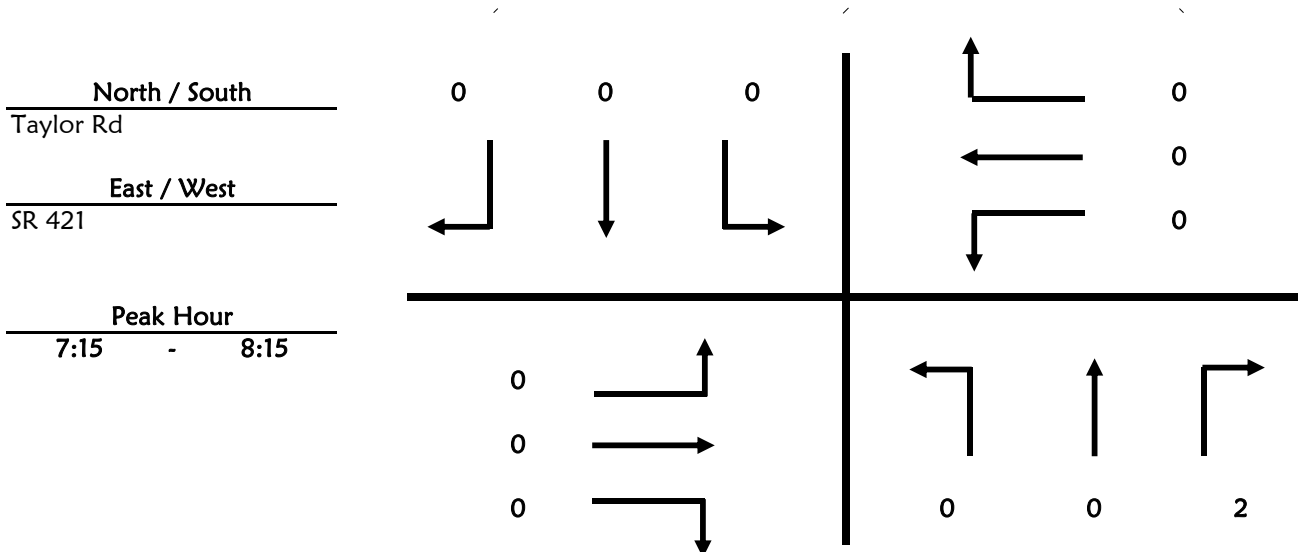
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Taylor Rd & SR 421
 Date May 6, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	2	0	0	0
7:15 - 7:30	0	0	1	0	0	0
7:30 - 7:45	0	0	1	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

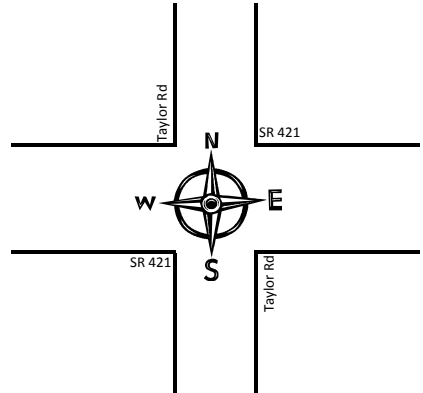
NB/SB: Taylor Rd

Date: 5/6/2014

EB/WB: SR 421

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00			1	1
2	8:00				
3					
4	16:00				
5	17:00			1	1
6					
7					
8					
		0	0	2	2



		Southbound		Northbound		Hour
		Ped ▼	Bike	Ped ▲	Bike	
	1					7:00
	2					8:00
	3					
	4					16:00
	5					17:00
	6					
	7					
	8					
		0	0	0	0	

Eastbound	Bike								0
	Ped				2				2
Westbound	Bike								0
	Ped								0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

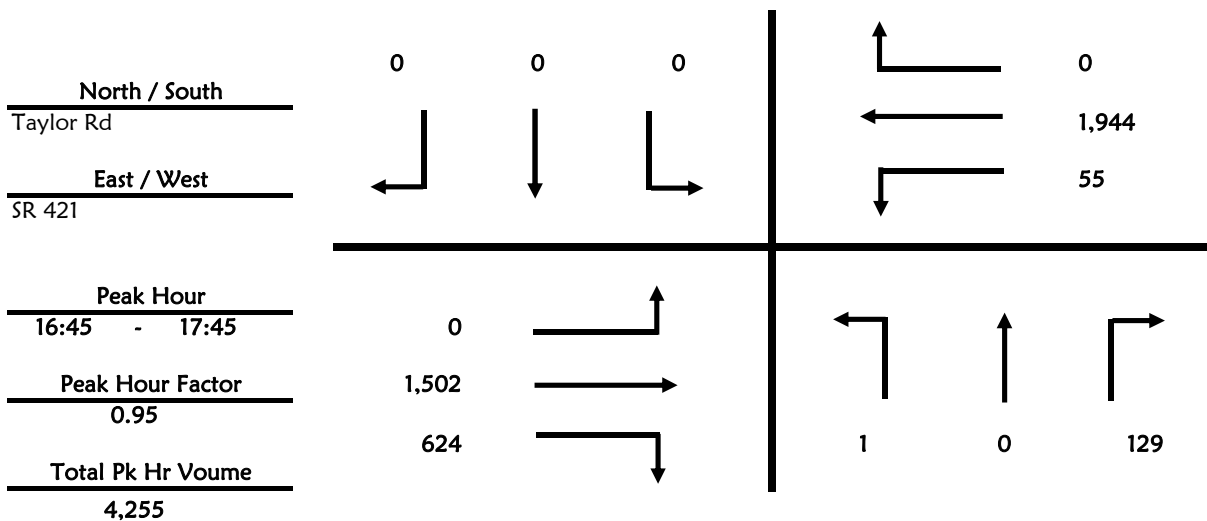
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Taylor Rd & SR 421
Date May 6, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	24	0	0	0
16:15 - 16:30	0	0	27	0	0	0
16:30 - 16:45	0	0	34	0	0	0
16:45 - 17:00	1	0	25	0	0	0
17:00 - 17:15	0	0	36	0	0	0
17:15 - 17:30	0	0	32	0	0	0
17:30 - 17:45	0	0	36	0	0	0
17:45 - 18:00	0	0	30	0	0	0
Total	1	0	244	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	325	118	24	434	0
16:15 - 16:30	0	357	147	17	465	0
16:30 - 16:45	0	301	145	11	489	1
16:45 - 17:00	0	326	149	11	498	0
17:00 - 17:15	0	356	152	16	503	0
17:15 - 17:30	0	422	164	15	482	0
17:30 - 17:45	0	398	159	13	461	0
17:45 - 18:00	0	350	133	19	411	0
Total	0	2,835	1,167	126	3,743	1



Roadway Count Summary

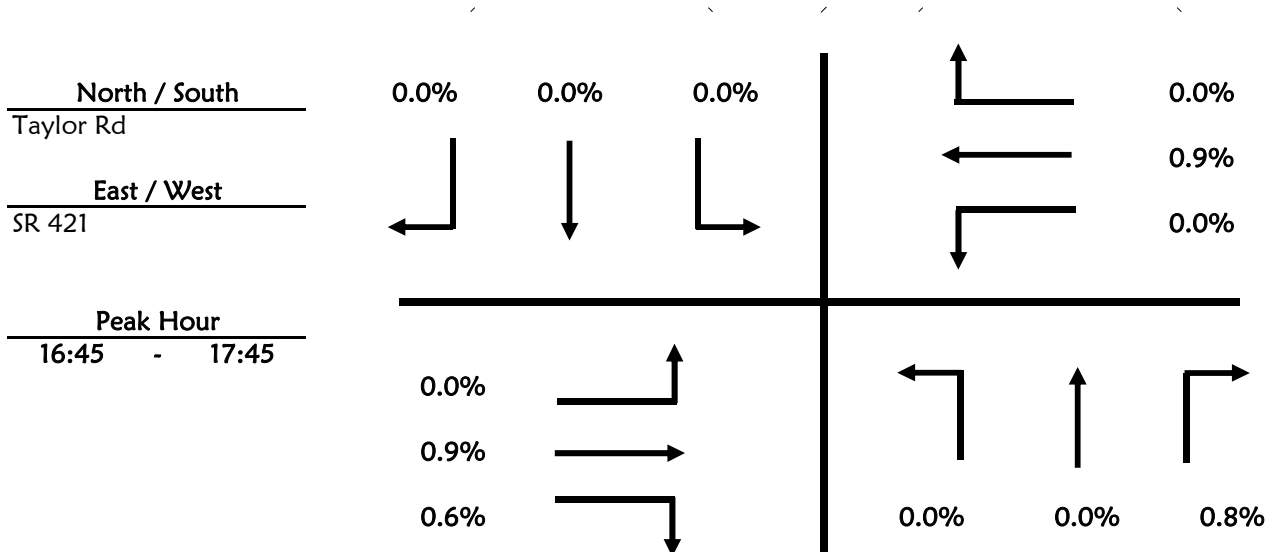
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Taylor Rd & SR 421
 Date May 6, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	1	0	0	0
16:30 - 16:45	0	0	1	0	0	0
16:45 - 17:00	0	0	1	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	1	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	4	5	0	7	0
16:15 - 16:30	0	8	2	0	11	0
16:30 - 16:45	0	7	3	0	5	0
16:45 - 17:00	0	7	0	0	7	0
17:00 - 17:15	0	0	1	0	5	0
17:15 - 17:30	0	4	2	0	3	0
17:30 - 17:45	0	2	1	0	3	0
17:45 - 18:00	0	6	0	0	5	0



Roadway Count Summary

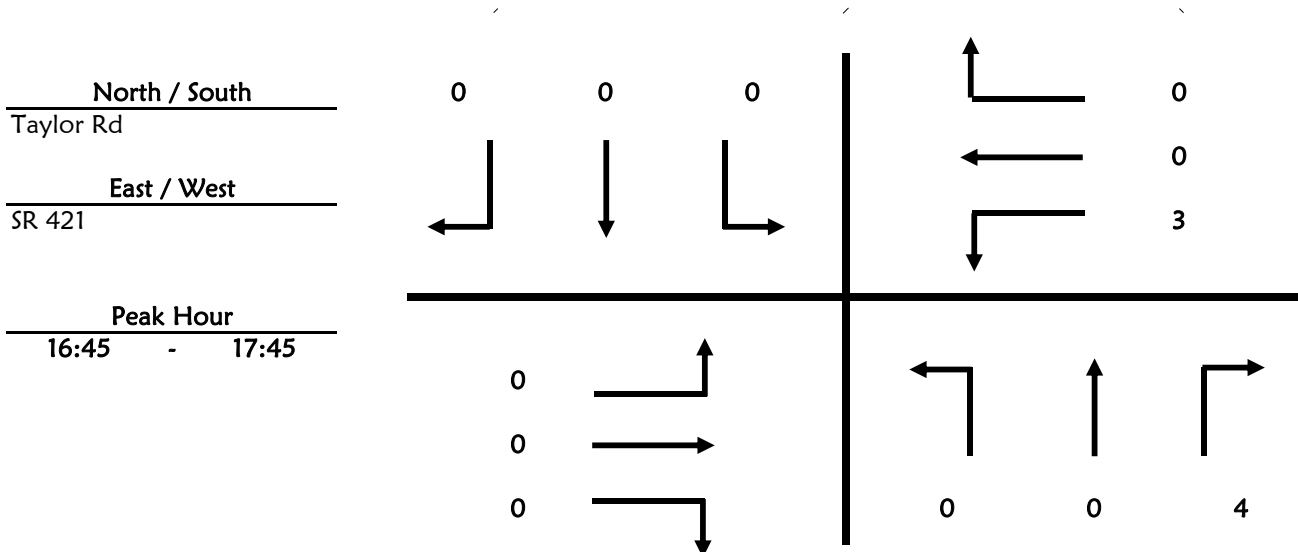
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Taylor Rd & SR 421
 Date May 6, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	4	0	0	0
16:15 - 16:30	0	0	1	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	3	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	1	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	1	0	0
16:45 - 17:00	0	0	0	1	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	2	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

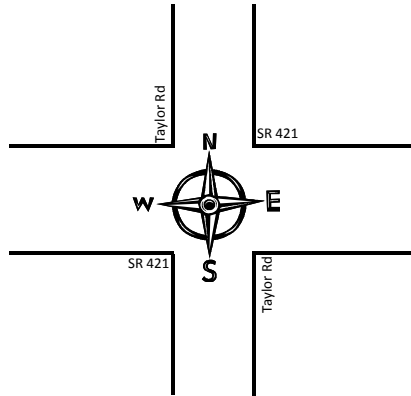
NB/SB: Taylor Rd

Date: 5/6/2014

EB/WB: SR 421

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
		Ped ▼	Bike	Ped ▲	Bike
1	7:00			1	1
2	8:00				
3					
4	16:00				
5	17:00			1	1
6					
7					
8					
		0	0	2	2



		Southbound		Northbound			
		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00						
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	0		

Eastbound	Bike								0
	Ped				2				2
Westbound	Bike								0
	Ped								0

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

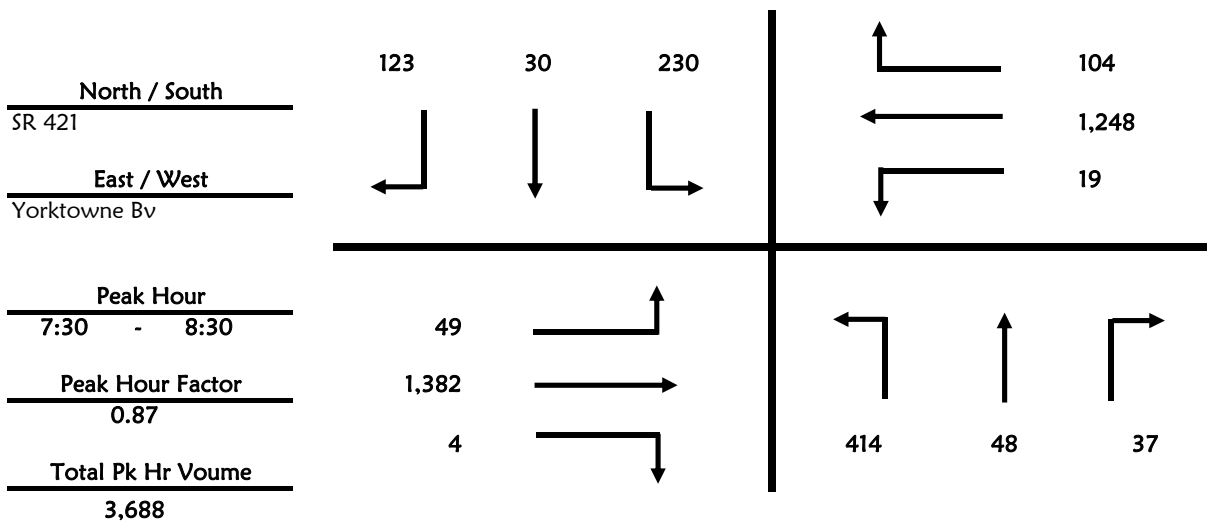
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection SR 421 & Yorktowne Bv
Date April 22, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	89	7	6	41	6	19
7:15 - 7:30	107	9	12	50	7	28
7:30 - 7:45	114	23	14	56	9	32
7:45 - 8:00	108	10	8	74	13	32
8:00 - 8:15	105	7	7	42	4	26
8:15 - 8:30	87	8	8	58	4	33
8:30 - 8:45	82	5	8	43	13	20
8:45 - 9:00	75	9	11	51	4	13
	767	78	74	415	60	203

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	9	274	1	4	200	12
7:15 - 7:30	17	315	2	1	256	28
7:30 - 7:45	22	394	1	4	348	38
7:45 - 8:00	12	362	2	5	322	19
8:00 - 8:15	7	282	0	4	284	18
8:15 - 8:30	8	344	1	6	294	29
8:30 - 8:45	6	310	3	5	253	20
8:45 - 9:00	9	282	1	8	252	32
	90	2,563	11	37	2,209	196



Roadway Count Summary

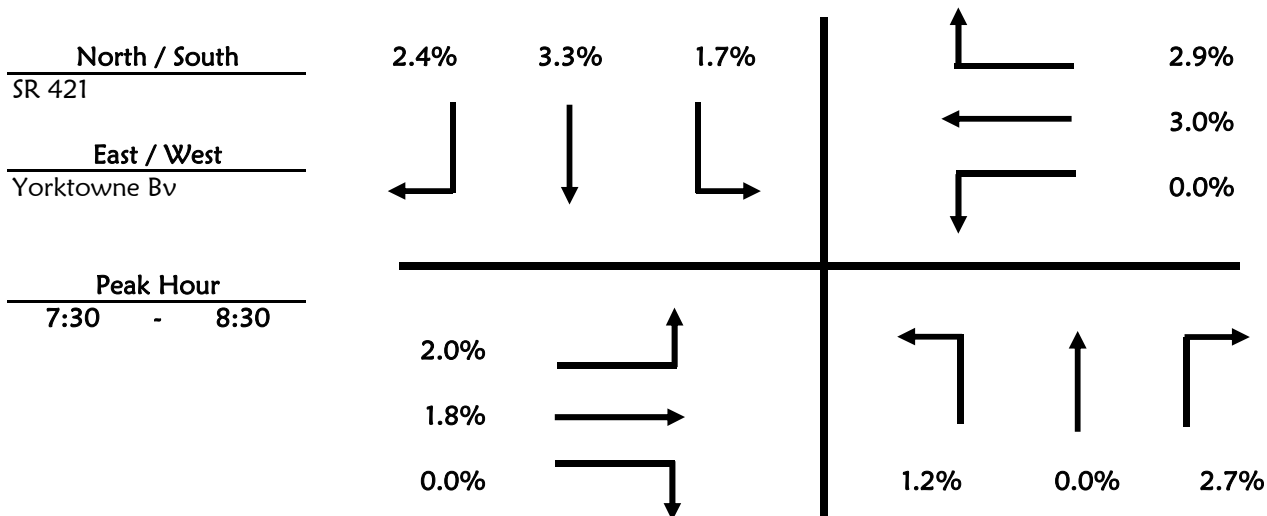
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection SR 421 & Yorktowne Bv
 Date April 22, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	4	1	0	2	0	0
7:15 - 7:30	1	0	0	3	0	1
7:30 - 7:45	0	0	1	1	0	0
7:45 - 8:00	2	0	0	2	1	1
8:00 - 8:15	1	0	0	1	0	1
8:15 - 8:30	2	0	0	0	0	1
8:30 - 8:45	1	0	0	0	0	1
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	5	0	0	8	2
7:15 - 7:30	0	6	0	0	2	0
7:30 - 7:45	1	11	0	0	4	3
7:45 - 8:00	0	8	0	0	7	0
8:00 - 8:15	0	4	0	0	7	0
8:15 - 8:30	0	2	0	0	20	0
8:30 - 8:45	0	8	0	0	5	1
8:45 - 9:00	0	5	0	0	7	0



Roadway Count Summary

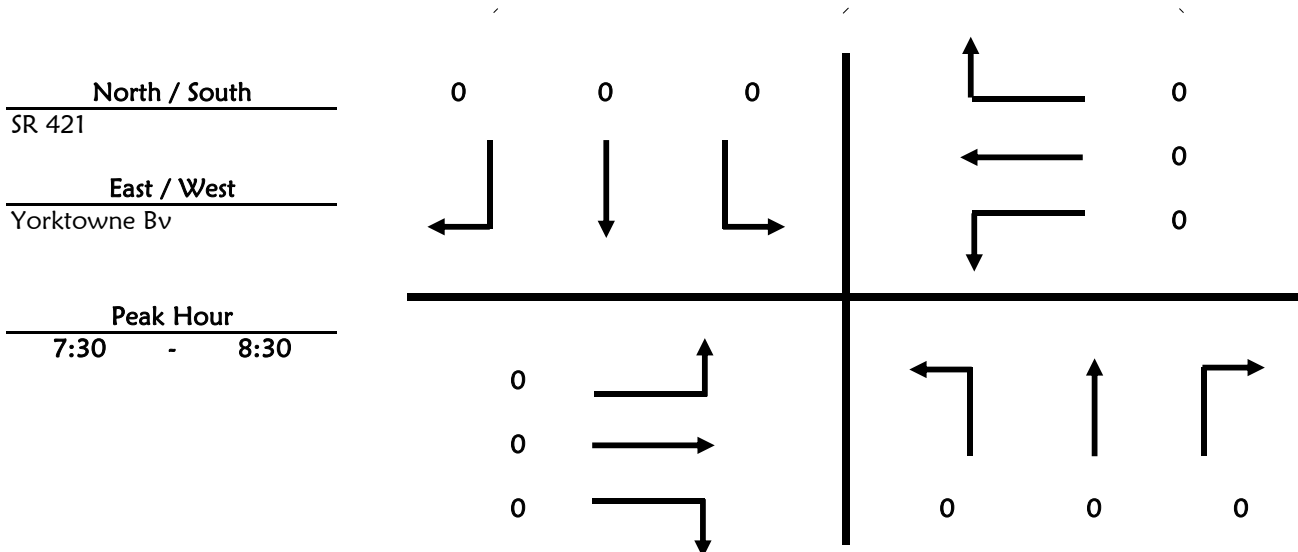
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection SR 421 & Yorktowne Bv
 Date April 22, 2014
 Time Period 7:00 to 9:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

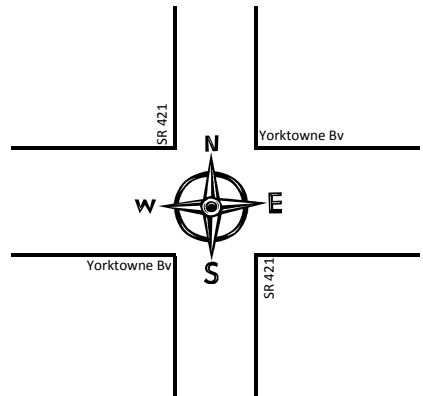
NB/SB: SR 421

Date: 4/22/2014

EB/WB: Yorktowne Bv

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped				1	1				2
Westbound	Bike									0
	Ped				1	1				2

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00				
5 17:00		1		
6				
7				
8				
	0	1	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00			1	1
5 17:00				
6				
7				
8				
	0	0	1	1

Eastbound	Bike				3	4				7
	Ped									0
Westbound	Bike				1					1
	Ped					1				1

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

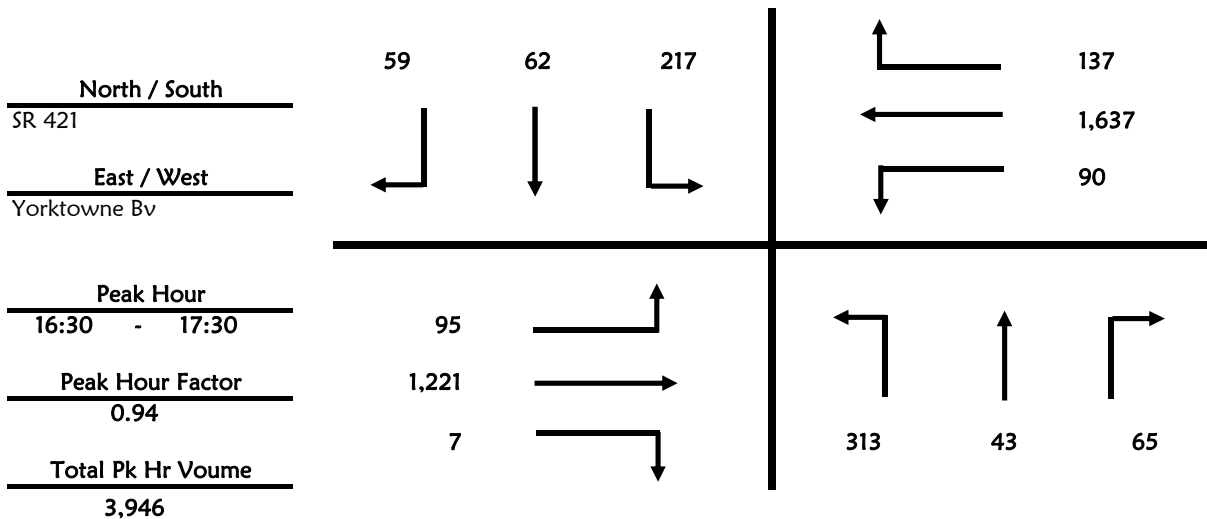
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection SR 421 & Yorktowne Bv
 Date April 22, 2014 All Vehicles
 Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	89	14	11	77	16	16
16:15 - 16:30	67	6	18	69	11	22
16:30 - 16:45	59	9	20	50	13	19
16:45 - 17:00	85	13	12	62	13	20
17:00 - 17:15	92	6	17	61	17	13
17:15 - 17:30	77	15	16	44	19	7
17:30 - 17:45	72	9	9	59	6	17
17:45 - 18:00	74	7	15	52	15	17
	615	79	118	474	110	131

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	25	295	3	21	358	28
16:15 - 16:30	15	274	1	33	427	31
16:30 - 16:45	26	274	0	30	441	33
16:45 - 17:00	26	305	2	18	369	34
17:00 - 17:15	13	262	3	15	422	37
17:15 - 17:30	30	380	2	27	405	33
17:30 - 17:45	36	284	3	22	380	41
17:45 - 18:00	22	324	0	19	402	32
	193	2,398	14	185	3,204	269



Roadway Count Summary

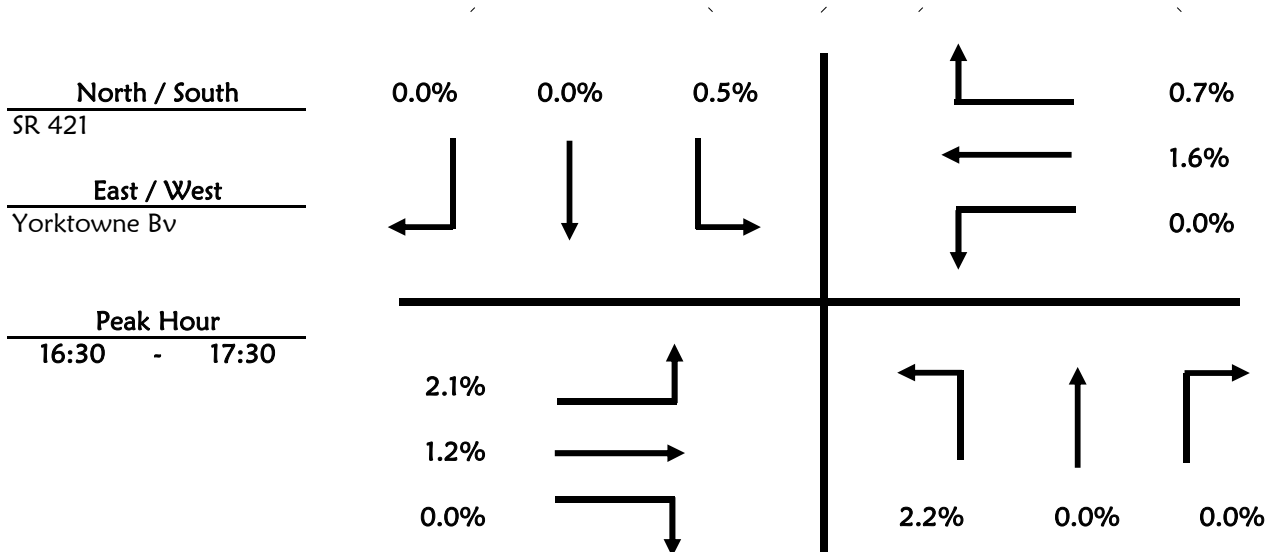
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection SR 421 & Yorktowne Bv
 Date April 22, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	1	0	1	0	0	0
16:30 - 16:45	4	0	0	0	0	0
16:45 - 17:00	1	0	0	0	0	0
17:00 - 17:15	1	0	0	1	0	0
17:15 - 17:30	1	0	0	0	0	0
17:30 - 17:45	2	0	0	1	0	1
17:45 - 18:00	2	0	0	0	0	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	6	0	0	15	1
16:15 - 16:30	0	5	0	0	13	1
16:30 - 16:45	0	4	0	0	8	0
16:45 - 17:00	2	4	0	0	6	1
17:00 - 17:15	0	4	0	0	5	0
17:15 - 17:30	0	3	0	0	7	0
17:30 - 17:45	0	4	0	1	5	0
17:45 - 18:00	0	4	0	0	5	0



Roadway Count Summary

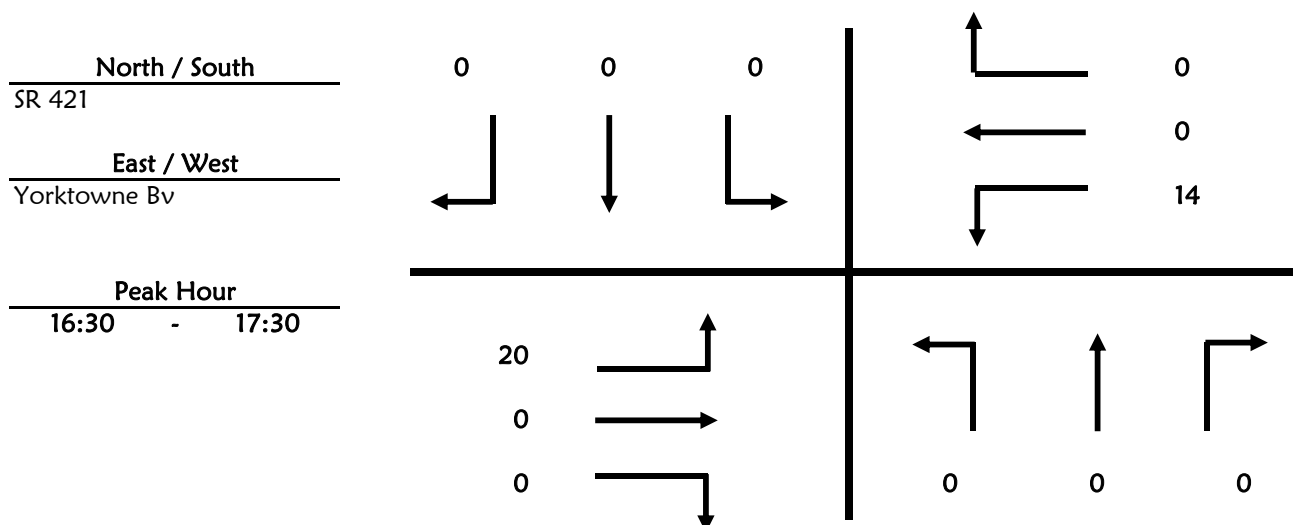
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection SR 421 & Yorktowne Bv
 Date April 22, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	1	0	0	1	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	7	0	0	5	0	0
16:15 - 16:30	4	0	0	5	0	0
16:30 - 16:45	9	0	0	4	0	0
16:45 - 17:00	8	0	0	2	0	0
17:00 - 17:15	2	0	0	3	0	0
17:15 - 17:30	1	0	0	5	0	0
17:30 - 17:45	2	0	0	3	0	0
17:45 - 18:00	3	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

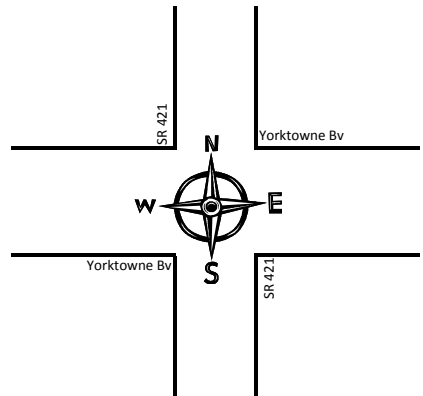
NB/SB: SR 421

Date: 4/22/2014

EB/WB: Yorktowne Bv

		Hour								
		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped				1	1				2
Westbound	Bike									0
	Ped				1	1				2

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00				
5 17:00		1		
6				
7				
8				
	0	1	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00				
2 8:00				
3				
4 16:00			1	1
5 17:00				
6				
7				
8				
	0	0	1	1

Eastbound	Bike				3	4				7
	Ped									0
Westbound	Bike				1					1
	Ped					1				1

		7:00	8:00		16:00	17:00			
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

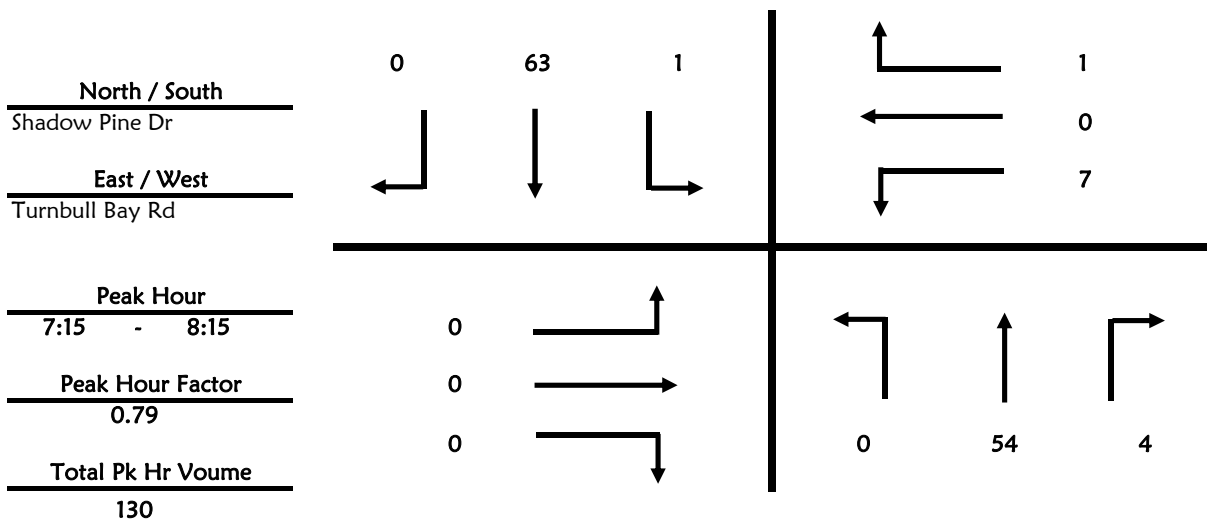
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Shadow Pine Dr & Turnbull Bay Rd
Date April 17, 2014 **All Vehicles**
Time Period 7:00 to 0:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	7	0	0	12	0
7:15 - 7:30	0	9	0	0	16	0
7:30 - 7:45	0	13	1	0	21	0
7:45 - 8:00	0	18	1	0	15	0
8:00 - 8:15	0	14	2	1	11	0
8:15 - 8:30	0	12	0	0	13	0
8:30 - 8:45	0	17	2	0	15	0
8:45 - 0:00	0	19	2	0	11	0
Total	0	109	8	1	114	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	1	0	0
7:15 - 7:30	0	0	0	1	0	0
7:30 - 7:45	0	0	0	5	0	1
7:45 - 8:00	0	0	0	1	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	2	0	0
8:45 - 0:00	0	0	0	0	0	1
Total	0	0	0	10	0	2



Roadway Count Summary

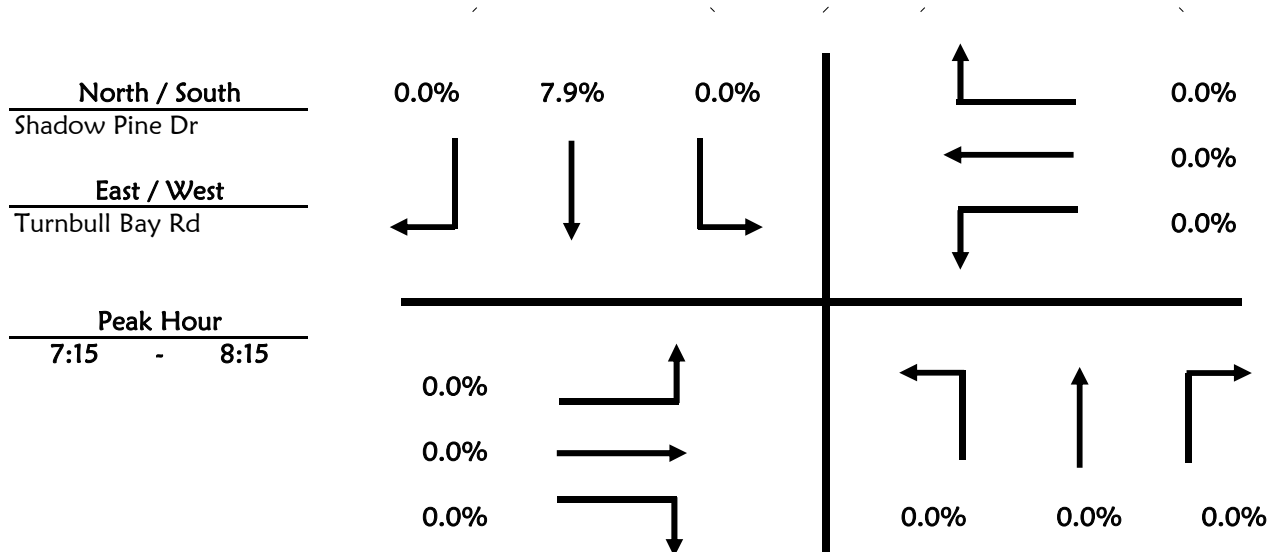
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Shadow Pine Dr & Turnbull Bay Rd
 Date April 17, 2014
 Time Period 7:00 to 0:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	1	0	0	1	0
7:15 - 7:30	0	0	0	0	1	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	3	0
8:00 - 8:15	0	0	0	0	1	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	6	0	0	0	0
8:45 - 0:00	0	6	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 0:00	0	0	0	0	0	0



Roadway Count Summary

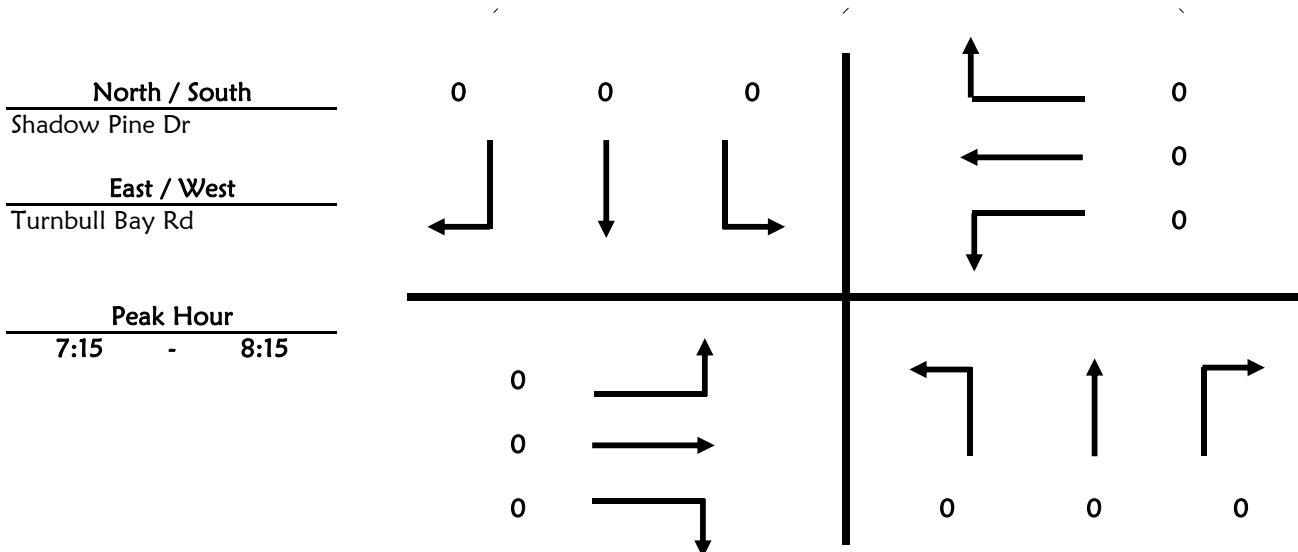
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Shadow Pine Dr & Turnbull Bay Rd
 Date April 17, 2014
 Time Period 7:00 to 0:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 0:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 0:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

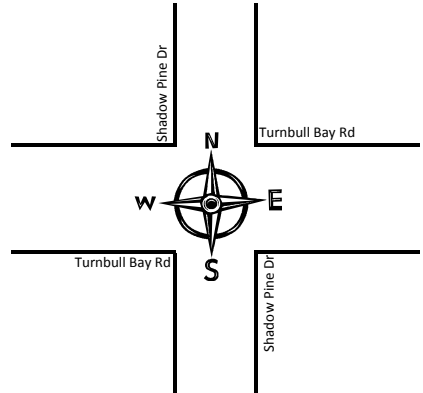
NB/SB: Shadow Pine Dr

Date: 4/17/2014

EB/WB: Turnbull Bay Rd

		Hour									
		7:00	8:00	16:00	17:00						
		1	2	3	4	5	6	7	8		
Eastbound	Bike									0	
	Ped		1							1	
Westbound	Bike									0	
	Ped									0	

		Southbound		Northbound	
		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00	1	1		
3					
4	16:00			1	
5	17:00		1		
6					
7					
8					
		1	2	1	0



		Southbound		Northbound			
		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00					1	7:00
2	8:00				1	2	8:00
3						3	
4	16:00					4	16:00
5	17:00					5	17:00
6						6	
7						7	
8						8	
		0	0	0	1		

Eastbound	Bike									0
	Ped									0
Westbound	Bike									0
	Ped									0

		7:00	8:00	16:00	17:00						
		1	2	3	4	5	6	7	8		

Hour

Roadway Count Summary

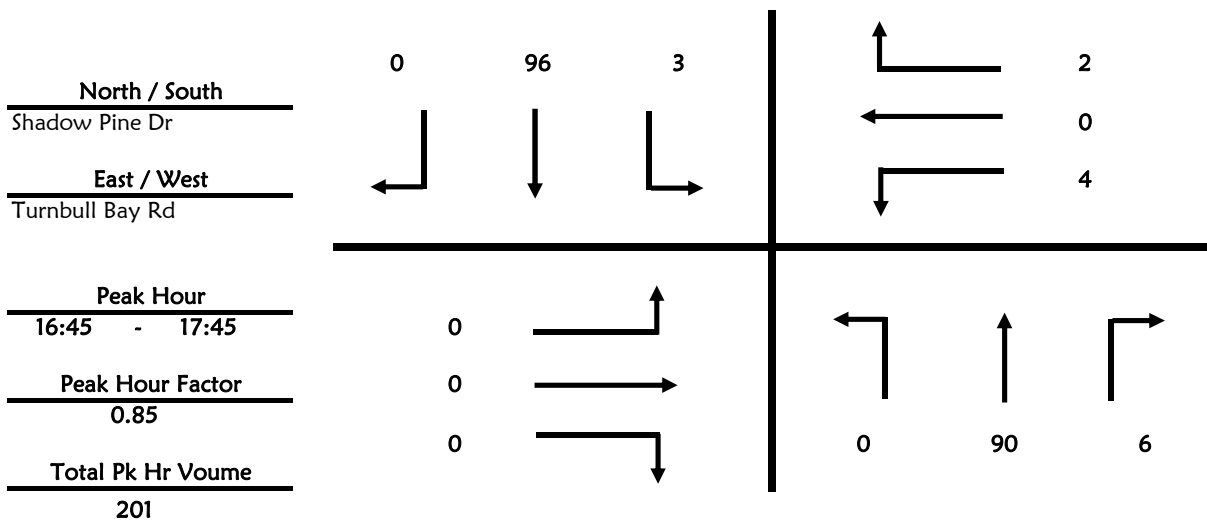
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Shadow Pine Dr & Turnbull Bay Rd
 Date April 17, 2014 All Vehicles
 Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	21	0	2	15	0
16:15 - 16:30	0	24	2	2	12	0
16:30 - 16:45	0	29	0	0	10	0
16:45 - 17:00	0	22	1	0	20	0
17:00 - 17:15	0	26	1	1	27	0
17:15 - 17:30	0	22	1	2	25	0
17:30 - 17:45	0	20	3	0	24	0
17:45 - 18:00	0	17	3	1	17	0
	0	181	11	8	150	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	0	0	0	3	0	1
17:15 - 17:30	0	0	0	1	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	2	0	0
	0	0	0	6	0	2



Roadway Count Summary

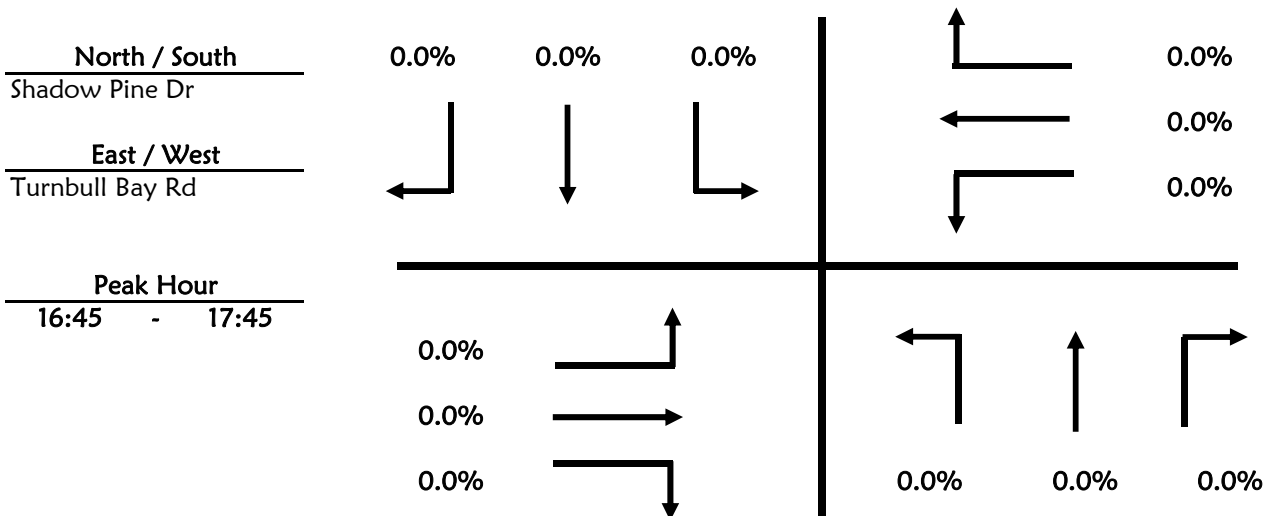
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Shadow Pine Dr & Turnbull Bay Rd
 Date April 17, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	1	0
16:15 - 16:30	0	1	0	0	0	0
16:30 - 16:45	0	1	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



Roadway Count Summary

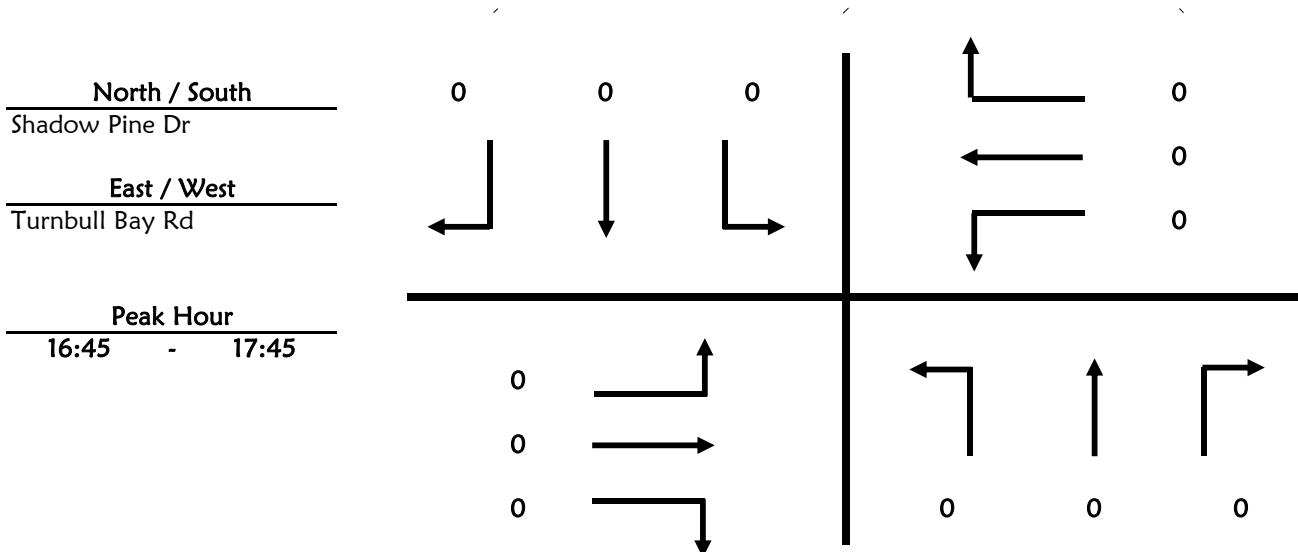
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Shadow Pine Dr & Turnbull Bay Rd
 Date April 17, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0



Pedestrian & Bicycle Summary

Project #: 12-033.01

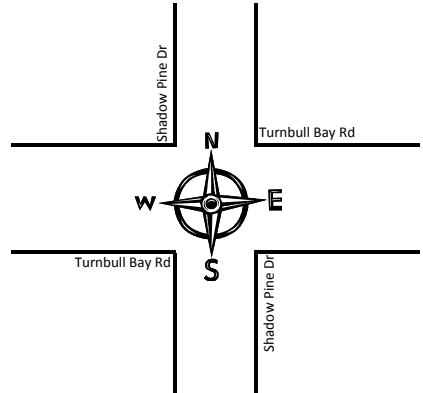
NB/SB: Shadow Pine Dr

Date: 4/17/2014

EB/WB: Turnbull Bay Rd

		Hour								
		7:00	8:00	16:00	17:00					
		1	2	3	4	5	6	7	8	
Eastbound	Bike									0
	Ped		1							1
Westbound	Bike									0
	Ped									0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00	1	1		
3					
4	16:00			1	
5	17:00		1		
6					
7					
8					
		1	2	1	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00						
2	8:00				1		
3							
4	16:00						
5	17:00						
6							
7							
8							
		0	0	0	1		

Eastbound	Bike								0
	Ped								0
Westbound	Bike								0
	Ped								0

		7:00	8:00	16:00	17:00				
		1	2	3	4	5	6	7	8

Hour

Roadway Count Summary

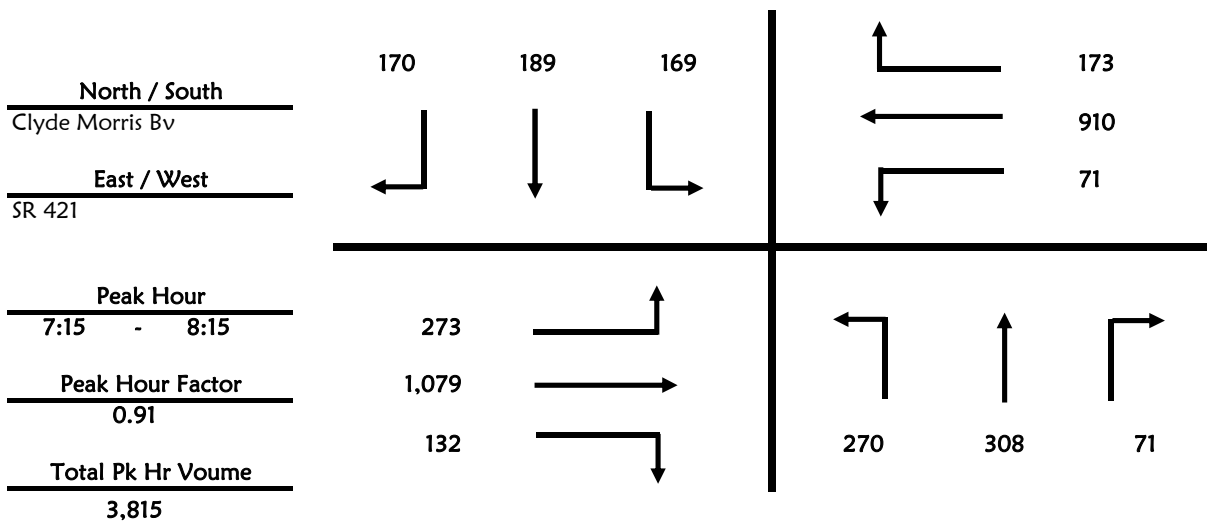
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Clyde Morris Bv & SR 421
Date April 23, 2014 **All Vehicles**
Time Period 7:00 to 9:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	36	37	12	37	87	27
7:15 - 7:30	46	67	15	36	61	32
7:30 - 7:45	80	96	29	54	41	36
7:45 - 8:00	94	76	20	44	34	47
8:00 - 8:15	50	69	7	35	53	55
8:15 - 8:30	40	52	6	38	31	50
8:30 - 8:45	39	52	7	61	24	59
8:45 - 9:00	32	52	5	52	48	68
	417	501	101	357	379	374

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	42	140	91	42	149	30
7:15 - 7:30	58	247	74	25	212	48
7:30 - 7:45	64	304	26	16	254	52
7:45 - 8:00	73	299	21	14	232	39
8:00 - 8:15	78	229	11	16	212	34
8:15 - 8:30	81	253	11	14	225	39
8:30 - 8:45	65	269	12	13	184	42
8:45 - 9:00	74	227	16	25	207	42
	535	1,968	262	165	1,675	326



Roadway Count Summary

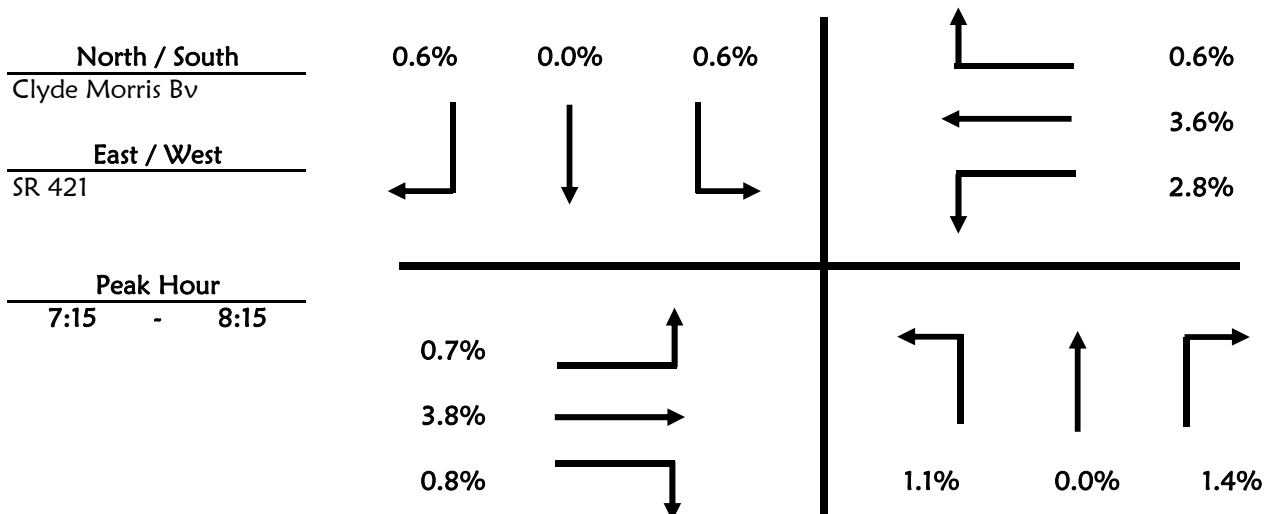
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Clyde Morris Bv & SR 421
 Date April 23, 2014
 Time Period 7:00 to 9:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	1	1	3	1
7:15 - 7:30	0	0	1	0	0	0
7:30 - 7:45	1	0	0	1	0	0
7:45 - 8:00	2	0	0	0	0	1
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	2	0	0	1	2	0
8:30 - 8:45	1	0	0	1	1	0
8:45 - 9:00	2	0	0	3	0	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	4	0	0	5	0
7:15 - 7:30	1	9	0	0	6	0
7:30 - 7:45	1	15	1	1	10	0
7:45 - 8:00	0	11	0	0	7	1
8:00 - 8:15	0	6	0	1	10	0
8:15 - 8:30	2	6	0	2	11	2
8:30 - 8:45	0	7	0	0	3	0
8:45 - 9:00	1	6	1	0	4	0



Roadway Count Summary

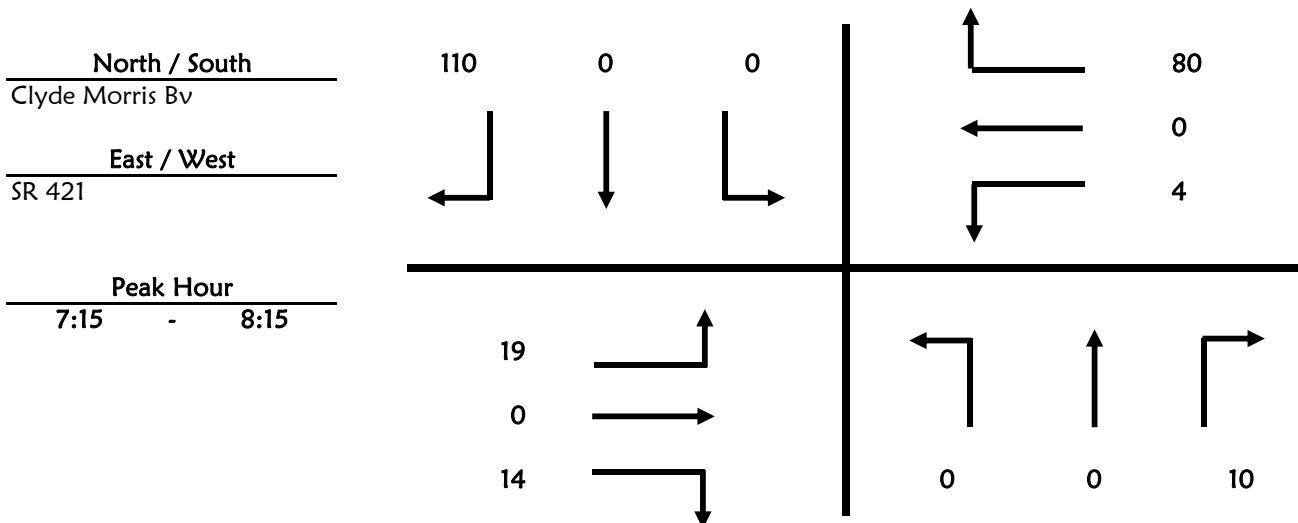
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Clyde Morris Bv & SR 421
Date April 23, 2014
Time Period 7:00 to 9:00 **U-Turn & RTOR**

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	4	0	0	21
7:15 - 7:30	0	0	5	0	0	21
7:30 - 7:45	0	0	1	0	0	29
7:45 - 8:00	0	0	2	0	0	31
8:00 - 8:15	0	0	2	0	0	29
8:15 - 8:30	0	0	1	0	0	24
8:30 - 8:45	0	0	1	0	0	39
8:45 - 9:00	0	0	0	0	0	31

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	4	0	13	0	0	13
7:15 - 7:30	2	0	7	0	0	19
7:30 - 7:45	4	0	4	0	0	24
7:45 - 8:00	8	0	2	2	0	24
8:00 - 8:15	5	0	1	2	0	13
8:15 - 8:30	6	0	0	2	0	17
8:30 - 8:45	5	0	0	4	0	13
8:45 - 9:00	11	0	3	2	0	7



Pedestrian & Bicycle Summary

Project #: 12-033.01

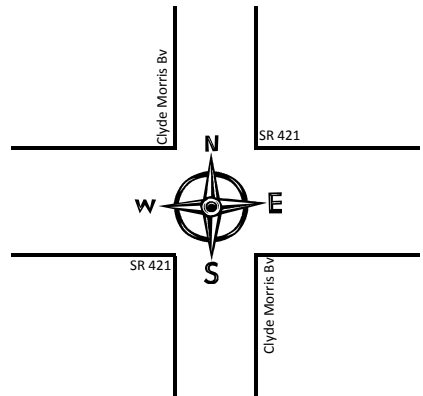
NB/SB: Clyde Morris Bv

Date: 4/23/2014

EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike	2	1								3
	Ped										0
Westbound	Bike		1								1
	Ped										0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00		1		
6					
7					
8					
		0	1	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike	Hour	
1	7:00		2			1	7:00
2	8:00	1	3	3		2	8:00
3						3	
4	16:00				1	4	16:00
5	17:00			1	2	5	17:00
6						6	
7						7	
8						8	
		1	5	4	3		

Eastbound	Bike					1					1
	Ped		3								3
Westbound	Bike										0
	Ped										0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Roadway Count Summary

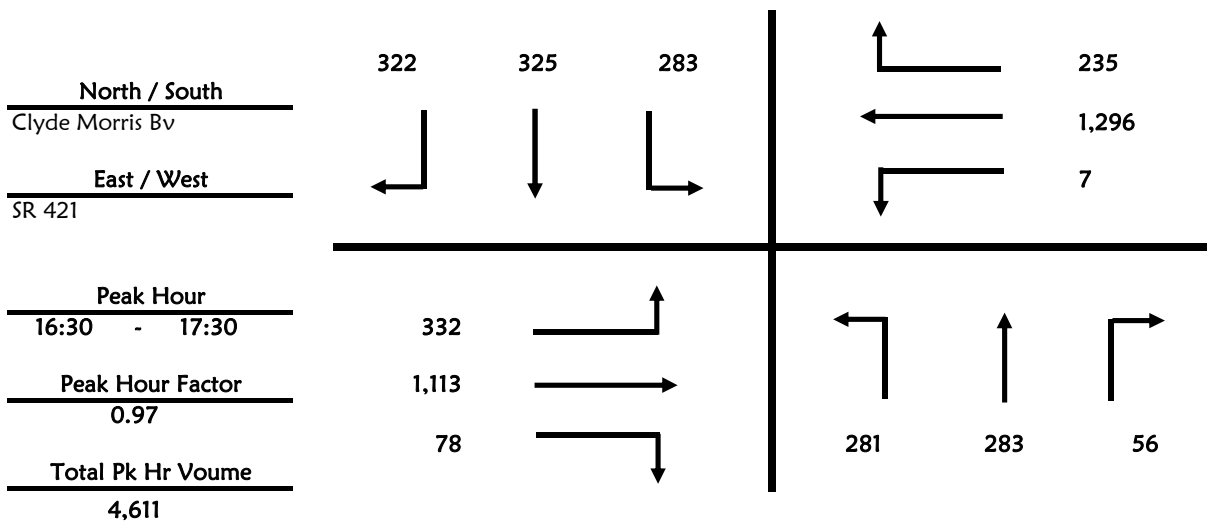
GMB Engineers & Planners, Inc.

County Volusia **City** 0
Intersection Clyde Morris Bv & SR 421
Date April 23, 2014 **All Vehicles**
Time Period 16:00 to 18:00

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	71	54	6	80	65	71
16:15 - 16:30	53	63	13	60	77	69
16:30 - 16:45	78	79	16	62	69	81
16:45 - 17:00	72	61	15	78	75	66
17:00 - 17:15	64	72	11	66	94	93
17:15 - 17:30	67	71	14	77	87	82
17:30 - 17:45	68	60	15	44	77	84
17:45 - 18:00	63	87	7	55	74	78
	536	547	97	522	618	624

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	67	294	14	2	304	52
16:15 - 16:30	88	267	23	3	326	54
16:30 - 16:45	69	258	19	1	325	71
16:45 - 17:00	95	292	19	4	361	47
17:00 - 17:15	92	244	19	1	305	64
17:15 - 17:30	76	319	21	1	305	53
17:30 - 17:45	84	304	18	5	313	34
17:45 - 18:00	81	254	18	3	222	49
	652	2,232	151	20	2,461	424



Roadway Count Summary

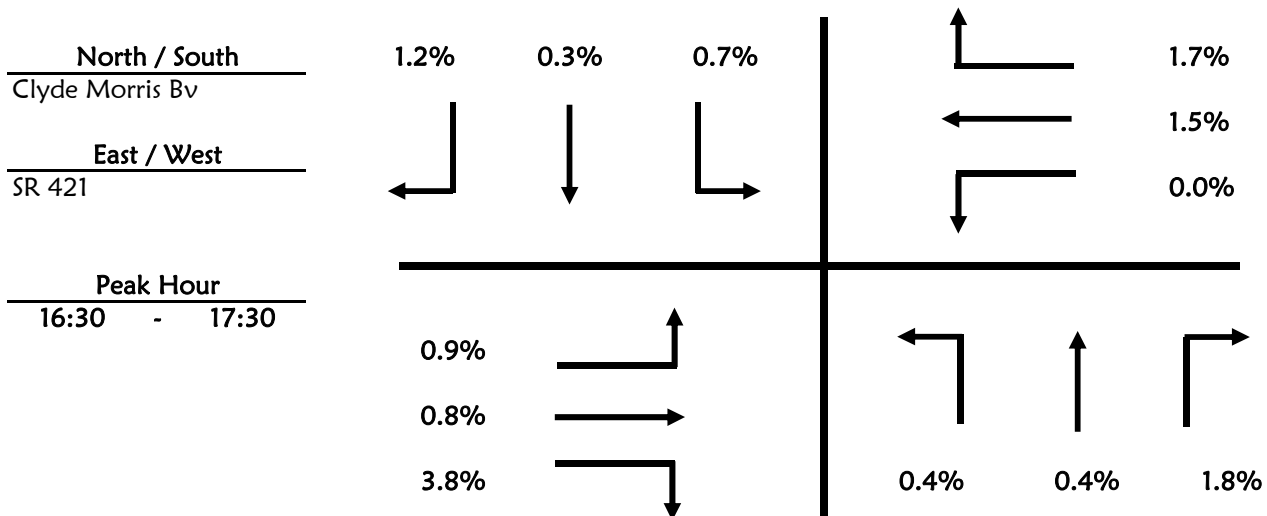
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Clyde Morris Bv & SR 421
 Date April 23, 2014
 Time Period 16:00 to 18:00 Trucks

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	1	0	0	0	2
16:15 - 16:30	0	2	0	0	0	2
16:30 - 16:45	0	0	0	0	0	1
16:45 - 17:00	0	0	1	0	1	0
17:00 - 17:15	1	0	0	1	0	1
17:15 - 17:30	0	1	0	1	0	2
17:30 - 17:45	1	1	0	1	0	1
17:45 - 18:00	1	0	0	1	0	2

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	3	1	0	6	0
16:15 - 16:30	0	3	0	0	4	1
16:30 - 16:45	0	3	2	0	8	2
16:45 - 17:00	2	0	1	0	6	0
17:00 - 17:15	1	3	0	0	2	1
17:15 - 17:30	0	3	0	0	3	1
17:30 - 17:45	1	5	1	0	3	1
17:45 - 18:00	0	4	1	0	4	1



Roadway Count Summary

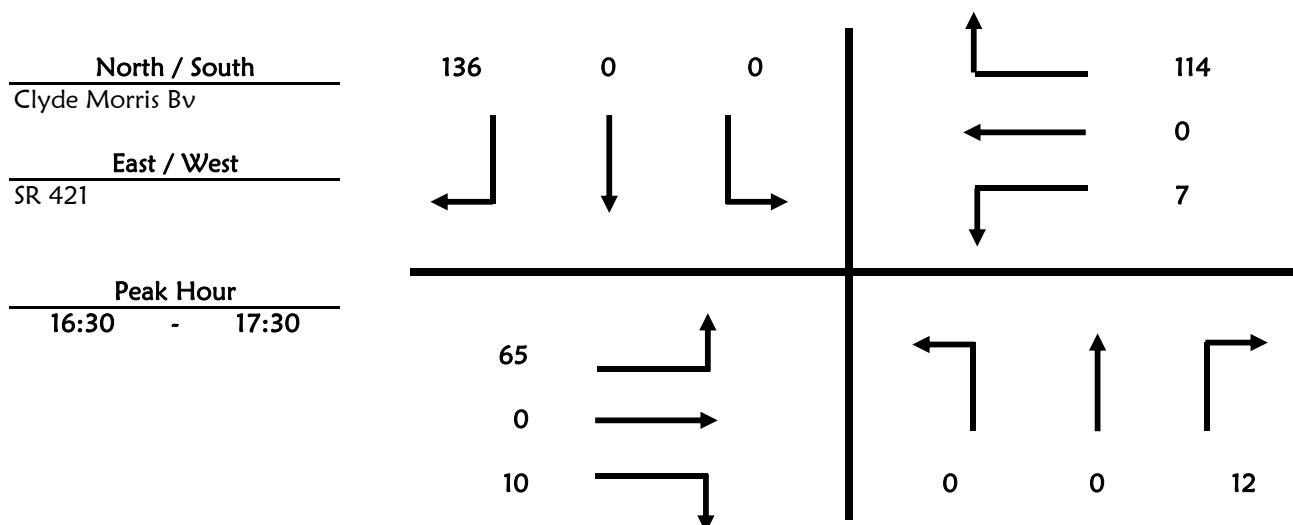
GMB Engineers & Planners, Inc.

County Volusia City 0
 Intersection Clyde Morris Bv & SR 421
 Date April 23, 2014
 Time Period 16:00 to 18:00 U-Turn & RTOR

GMB Project #: 12-033.01

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	31
16:15 - 16:30	0	0	1	0	0	32
16:30 - 16:45	0	0	2	0	0	31
16:45 - 17:00	0	0	5	0	0	35
17:00 - 17:15	0	0	1	0	0	39
17:15 - 17:30	0	0	4	0	0	31
17:30 - 17:45	0	0	5	0	0	40
17:45 - 18:00	0	0	2	0	0	29

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	11	0	0	2	0	18
16:15 - 16:30	16	0	0	3	0	23
16:30 - 16:45	14	0	5	1	0	35
16:45 - 17:00	10	0	2	4	0	22
17:00 - 17:15	25	0	1	1	0	39
17:15 - 17:30	16	0	2	1	0	18
17:30 - 17:45	15	0	2	5	0	17
17:45 - 18:00	17	0	1	3	0	27



Pedestrian & Bicycle Summary

Project #: 12-033.01

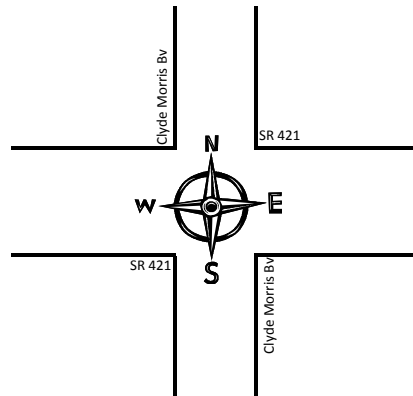
NB/SB: Clyde Morris Bv

Date: 4/23/2014

EB/WB: SR 421

		Hour									
		7:00	8:00		16:00	17:00					
		1	2	3	4	5	6	7	8		
Eastbound	Bike	2	1								3
	Ped										0
Westbound	Bike		1								1
	Ped										0

		Southbound		Northbound	
Hour		Ped ▼	Bike	Ped ▲	Bike
1	7:00				
2	8:00				
3					
4	16:00				
5	17:00		1		
6					
7					
8					
		0	1	0	0



		Southbound		Northbound			
Hour		Ped ▼	Bike	Ped ▲	Bike		
1	7:00		2			1	7:00
2	8:00	1	3	3		2	8:00
3							
4	16:00				1		16:00
5	17:00			1	2		17:00
6							
7							
8							
		1	5	4	3		

Eastbound	Bike					1					1
	Ped		3								3
Westbound	Bike										0
	Ped										0

		7:00	8:00		16:00	17:00				
		1	2	3	4	5	6	7	8	

Hour

Appendix D
FDOT Counts and Seasonal & Axle Factors

2013 Peak Season Factor Category Report - Report Type: ALL
 Category: 7900 VOLUSIA COUNTYWIDE

MOCF: 0.95

Week	Dates	SF	PSCF
1	01/01/2013 - 01/05/2013	1.02	1.07
2	01/06/2013 - 01/12/2013	1.02	1.07
3	01/13/2013 - 01/19/2013	1.02	1.07
4	01/20/2013 - 01/26/2013	1.00	1.05
5	01/27/2013 - 02/02/2013	0.99	1.04
* 6	02/03/2013 - 02/09/2013	0.97	1.02
* 7	02/10/2013 - 02/16/2013	0.96	1.01
* 8	02/17/2013 - 02/23/2013	0.95	1.00
* 9	02/24/2013 - 03/02/2013	0.94	0.99
*10	03/03/2013 - 03/09/2013	0.93	0.98
*11	03/10/2013 - 03/16/2013	0.93	0.98
*12	03/17/2013 - 03/23/2013	0.92	0.97
*13	03/24/2013 - 03/30/2013	0.93	0.98
*14	03/31/2013 - 04/06/2013	0.95	1.00
*15	04/07/2013 - 04/13/2013	0.96	1.01
*16	04/14/2013 - 04/20/2013	0.97	1.02
*17	04/21/2013 - 04/27/2013	0.98	1.03
*18	04/28/2013 - 05/04/2013	0.99	1.04
19	05/05/2013 - 05/11/2013	0.99	1.04
20	05/12/2013 - 05/18/2013	1.00	1.05
21	05/19/2013 - 05/25/2013	1.01	1.06
22	05/26/2013 - 06/01/2013	1.02	1.07
23	06/02/2013 - 06/08/2013	1.03	1.08
24	06/09/2013 - 06/15/2013	1.03	1.08
25	06/16/2013 - 06/22/2013	1.04	1.09
26	06/23/2013 - 06/29/2013	1.05	1.11
27	06/30/2013 - 07/06/2013	1.05	1.11
28	07/07/2013 - 07/13/2013	1.06	1.12
29	07/14/2013 - 07/20/2013	1.06	1.12
30	07/21/2013 - 07/27/2013	1.06	1.12
31	07/28/2013 - 08/03/2013	1.05	1.11
32	08/04/2013 - 08/10/2013	1.05	1.11
33	08/11/2013 - 08/17/2013	1.04	1.09
34	08/18/2013 - 08/24/2013	1.04	1.09
35	08/25/2013 - 08/31/2013	1.03	1.08
36	09/01/2013 - 09/07/2013	1.03	1.08
37	09/08/2013 - 09/14/2013	1.03	1.08
38	09/15/2013 - 09/21/2013	1.03	1.08
39	09/22/2013 - 09/28/2013	1.02	1.07
40	09/29/2013 - 10/05/2013	1.02	1.07
41	10/06/2013 - 10/12/2013	1.01	1.06
42	10/13/2013 - 10/19/2013	1.00	1.05
43	10/20/2013 - 10/26/2013	1.00	1.05
44	10/27/2013 - 11/02/2013	1.01	1.06
45	11/03/2013 - 11/09/2013	1.01	1.06
46	11/10/2013 - 11/16/2013	1.02	1.07
47	11/17/2013 - 11/23/2013	1.02	1.07
48	11/24/2013 - 11/30/2013	1.02	1.07
49	12/01/2013 - 12/07/2013	1.02	1.07
50	12/08/2013 - 12/14/2013	1.02	1.07
51	12/15/2013 - 12/21/2013	1.02	1.07
52	12/22/2013 - 12/28/2013	1.02	1.07
53	12/29/2013 - 12/31/2013	1.02	1.07

* Peak Season

2013 Peak Season Factor Category Report - Report Type: ALL
 Category: 7941 VOLUSIA I4 RURAL

Week	Dates	SF	MOCF: 0.98 PSCF
1	01/01/2013 - 01/05/2013	1.00	1.02
2	01/06/2013 - 01/12/2013	1.03	1.05
3	01/13/2013 - 01/19/2013	1.06	1.08
4	01/20/2013 - 01/26/2013	1.04	1.06
5	01/27/2013 - 02/02/2013	1.03	1.05
6	02/03/2013 - 02/09/2013	1.02	1.04
7	02/10/2013 - 02/16/2013	1.01	1.03
8	02/17/2013 - 02/23/2013	1.00	1.02
* 9	02/24/2013 - 03/02/2013	0.98	1.00
*10	03/03/2013 - 03/09/2013	0.97	0.99
*11	03/10/2013 - 03/16/2013	0.95	0.97
*12	03/17/2013 - 03/23/2013	0.94	0.96
*13	03/24/2013 - 03/30/2013	0.95	0.97
*14	03/31/2013 - 04/06/2013	0.97	0.99
*15	04/07/2013 - 04/13/2013	0.98	1.00
*16	04/14/2013 - 04/20/2013	0.99	1.01
*17	04/21/2013 - 04/27/2013	0.99	1.01
*18	04/28/2013 - 05/04/2013	1.00	1.02
*19	05/05/2013 - 05/11/2013	1.00	1.02
*20	05/12/2013 - 05/18/2013	1.01	1.03
*21	05/19/2013 - 05/25/2013	1.00	1.02
22	05/26/2013 - 06/01/2013	1.00	1.02
23	06/02/2013 - 06/08/2013	1.00	1.02
24	06/09/2013 - 06/15/2013	1.00	1.02
25	06/16/2013 - 06/22/2013	1.00	1.02
26	06/23/2013 - 06/29/2013	0.99	1.01
27	06/30/2013 - 07/06/2013	0.99	1.01
28	07/07/2013 - 07/13/2013	0.99	1.01
29	07/14/2013 - 07/20/2013	0.99	1.01
30	07/21/2013 - 07/27/2013	0.99	1.01
31	07/28/2013 - 08/03/2013	0.99	1.01
32	08/04/2013 - 08/10/2013	0.99	1.01
33	08/11/2013 - 08/17/2013	0.99	1.01
34	08/18/2013 - 08/24/2013	1.00	1.02
35	08/25/2013 - 08/31/2013	1.01	1.03
36	09/01/2013 - 09/07/2013	1.03	1.05
37	09/08/2013 - 09/14/2013	1.04	1.06
38	09/15/2013 - 09/21/2013	1.06	1.08
39	09/22/2013 - 09/28/2013	1.04	1.06
40	09/29/2013 - 10/05/2013	1.03	1.05
41	10/06/2013 - 10/12/2013	1.02	1.04
42	10/13/2013 - 10/19/2013	1.01	1.03
43	10/20/2013 - 10/26/2013	1.01	1.03
44	10/27/2013 - 11/02/2013	1.01	1.03
45	11/03/2013 - 11/09/2013	1.02	1.04
46	11/10/2013 - 11/16/2013	1.02	1.04
47	11/17/2013 - 11/23/2013	1.02	1.04
48	11/24/2013 - 11/30/2013	1.01	1.03
49	12/01/2013 - 12/07/2013	1.01	1.03
50	12/08/2013 - 12/14/2013	1.00	1.02
51	12/15/2013 - 12/21/2013	1.00	1.02
52	12/22/2013 - 12/28/2013	1.03	1.05
53	12/29/2013 - 12/31/2013	1.06	1.08

* Peak Season

2013 Peak Season Factor Category Report - Report Type: ALL
 Category: 7995 VOLUSIA I95

MOCF: 0.98

Week	Dates	SF	PSCF
1	01/01/2013 - 01/05/2013	0.92	0.94
2	01/06/2013 - 01/12/2013	0.99	1.01
3	01/13/2013 - 01/19/2013	1.07	1.09
4	01/20/2013 - 01/26/2013	1.06	1.08
5	01/27/2013 - 02/02/2013	1.05	1.07
6	02/03/2013 - 02/09/2013	1.04	1.06
* 7	02/10/2013 - 02/16/2013	1.03	1.05
* 8	02/17/2013 - 02/23/2013	1.02	1.04
* 9	02/24/2013 - 03/02/2013	0.99	1.01
*10	03/03/2013 - 03/09/2013	0.96	0.98
*11	03/10/2013 - 03/16/2013	0.93	0.95
*12	03/17/2013 - 03/23/2013	0.90	0.92
*13	03/24/2013 - 03/30/2013	0.92	0.94
*14	03/31/2013 - 04/06/2013	0.95	0.97
*15	04/07/2013 - 04/13/2013	0.97	0.99
*16	04/14/2013 - 04/20/2013	1.00	1.02
*17	04/21/2013 - 04/27/2013	1.01	1.03
*18	04/28/2013 - 05/04/2013	1.02	1.04
*19	05/05/2013 - 05/11/2013	1.03	1.05
20	05/12/2013 - 05/18/2013	1.04	1.06
21	05/19/2013 - 05/25/2013	1.03	1.05
22	05/26/2013 - 06/01/2013	1.03	1.05
23	06/02/2013 - 06/08/2013	1.02	1.04
24	06/09/2013 - 06/15/2013	1.02	1.04
25	06/16/2013 - 06/22/2013	1.01	1.03
26	06/23/2013 - 06/29/2013	1.00	1.02
27	06/30/2013 - 07/06/2013	0.99	1.01
28	07/07/2013 - 07/13/2013	0.98	1.00
29	07/14/2013 - 07/20/2013	0.97	0.99
30	07/21/2013 - 07/27/2013	0.98	1.00
31	07/28/2013 - 08/03/2013	0.99	1.01
32	08/04/2013 - 08/10/2013	1.00	1.02
33	08/11/2013 - 08/17/2013	1.01	1.03
34	08/18/2013 - 08/24/2013	1.02	1.04
35	08/25/2013 - 08/31/2013	1.05	1.07
36	09/01/2013 - 09/07/2013	1.08	1.10
37	09/08/2013 - 09/14/2013	1.10	1.12
38	09/15/2013 - 09/21/2013	1.13	1.15
39	09/22/2013 - 09/28/2013	1.11	1.13
40	09/29/2013 - 10/05/2013	1.09	1.11
41	10/06/2013 - 10/12/2013	1.06	1.08
42	10/13/2013 - 10/19/2013	1.04	1.06
43	10/20/2013 - 10/26/2013	1.03	1.05
44	10/27/2013 - 11/02/2013	1.02	1.04
45	11/03/2013 - 11/09/2013	1.01	1.03
46	11/10/2013 - 11/16/2013	1.00	1.02
47	11/17/2013 - 11/23/2013	0.99	1.01
48	11/24/2013 - 11/30/2013	0.97	0.99
49	12/01/2013 - 12/07/2013	0.95	0.97
50	12/08/2013 - 12/14/2013	0.93	0.95
51	12/15/2013 - 12/21/2013	0.92	0.94
52	12/22/2013 - 12/28/2013	0.99	1.01
53	12/29/2013 - 12/31/2013	1.07	1.09

* Peak Season

Appendix E
Existing Conditions Analysis Worksheets

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM PEAK
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	2811	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	781	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	1632	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1632	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	67.8	mi/h
Number of lanes, N	2	
Density, D	24.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM PEAK
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	1161	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	323	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	674	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	674	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	9.6	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM PEAK
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	1592	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	442	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	924	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	924	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	13.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM PEAK
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	812	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	226	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	471	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	471	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	6.7	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM PEAK
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	1962	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	545	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	1139	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1139	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	16.3	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM PEAK
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	866	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	241	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	503	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	503	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	7.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM PEAK
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

----- Flow Inputs and Adjustments -----

Volume, V	1374	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	382	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	798	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	798	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	11.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM PEAK
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	1985	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	551	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	1152	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1152	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	16.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM PEAK
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	948	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	263	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	550	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	550	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	7.9	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM PEAK
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	996	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	277	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	578	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	578	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	8.3	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM PEAK
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	1107	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	308	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	643	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	643	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	9.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM PEAK
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Flow Inputs and Adjustments-----

Volume, V	1354	veh/h
Peak-hour factor, PHF	0.90	
Peak 15-min volume, v15	376	v
Trucks and buses	9	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.957	
Driver population factor, fp	1.00	
Flow rate, vp	786	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	70.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	786	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	11.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM Peak
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	70.0	mph
Volume on freeway	1592	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	306	vph
Length of first accel/decel lane	220	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1592	306		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	442	85		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1848	355	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 1848$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	1848	4800	No
$v_{FO} = v_F - v_R$	1493	4800	No
v_R	355	2000	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1848$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1848	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 18.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.460	
Space mean speed in ramp influence area,	S = 57.1	mph
Space mean speed in outer lanes,	S = N/A	mph
Space mean speed for all vehicles,	S = 57.1	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM PEAK
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1286	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	676	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1286	676		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	357	188		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1493	785	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 1493 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2278	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 1493	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2278	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.4 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.342	
	S	
Space mean speed in ramp influence area,	S = 60.4	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 60.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM Peak
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	802	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	20.0	mph	
Volume on ramp	207	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	217	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	802	207	217	vph
Peak-hour factor, PHF	0.90	0.90	0.90	
Peak 15-min volume, v15	223	58	60	v
Trucks and buses	9	9	9	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.957	0.957	0.957	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	931	240	252	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 931$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	931	4800	No
$v_{FO} = v_F - v_R$	691	4800	No
v_R	240	1900	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 931$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	931	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 9.4$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence A

----- Speed Estimation -----

Intermediate speed variable,	D = 0.645	
Space mean speed in ramp influence area,	S _R = 52.0	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 52.0	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM Peak
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	866	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	64	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	866	64		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	241	18		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1006	74	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 1006$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v = v_{12}$	1006	4800	No
$v_{FO} = v_F - v_R$	932	4800	No
v_R	74	2000	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1006$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1006	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 10.9$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.435	
Space mean speed in ramp influence area,	S _R = 57.8	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 57.8	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM PEAK
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	595	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	217	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	207	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	595	217	207	vph
Peak-hour factor, PHF	0.90	0.90	0.90	
Peak 15-min volume, v15	165	60	57	v
Trucks and buses	9	9	9	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.957	0.957	0.957	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	691	252	240	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 691 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	943	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 691	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	943	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 8.9 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence A

----- Speed Estimation -----

Intermediate speed variable,	M = 0.288	
	S	
Space mean speed in ramp influence area,	S = 61.9	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 61.9	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM Peak
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2014
 Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1962	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	340	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1962	340		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	545	94		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2278	395	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 2278$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2278	4800	No
$v_{FO} = v_F - v_R$	1883	4800	No
v_R	395	2000	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2278$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2278	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.464	
Space mean speed in ramp influence area,	S _R = 57.0	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 57.0	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM PEAK
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1622	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	1189	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1622	1189		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	451	330		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1883	1381	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 1883 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3264	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 1883	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3264	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 29.0 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.408	
	S	
Space mean speed in ramp influence area,	S = 58.6	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 58.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM Peak
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1161	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	529	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1161	529		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	323	147		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1348	614	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

v = v + (v - v) P = 1348 pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v = v	1348	4800	No
Fi F			
v = v - v	734	4800	No
FO F R			
v	614	2000	No
R			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v > 2700 pc/h?		No	
3 av34			
Is v or v > 1.5 v /2		No	
3 av34 12			
If yes, v = 1348		(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v	1348	4400	No
12			

----- Level of Service Determination (if not F) -----

Density, D = 4.252 + 0.0086 v - 0.009 L = 14.0 pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.483	
	S	
Space mean speed in ramp influence area,	S = 56.5	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 56.5	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM PEAK
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	632	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	234	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	632	234		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	176	65		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	734	272	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 734 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	1006	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 734	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1006	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 11.6 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.314	
	S	
Space mean speed in ramp influence area,	S = 61.2	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 61.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM Peak
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	948	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	267	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	948	267		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	263	74		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1101	310	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 1101$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	1101	4800	No
$v_{FO} = v_F - v_R$	791	4800	No
v_R	310	2000	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1101$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1101	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 11.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.456	
Space mean speed in ramp influence area,	S _R = 57.2	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 57.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM PEAK
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	681	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	426	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	681	426		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	189	118		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	791	495	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 791 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	1286	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 791	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1286	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.8 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.318	
	S	
Space mean speed in ramp influence area,	S = 61.1	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 61.1	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM Peak
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1196	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	20.0	mph	
Volume on ramp	545	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	345	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1196	545	345	vph
Peak-hour factor, PHF	0.90	0.90	0.90	
Peak 15-min volume, v15	332	151	96	v
Trucks and buses	9	9	9	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.957	0.957	0.957	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1389	633	401	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 1389$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v = v_{12}$	1389	4800	No
$v_{FO} = v_F - v_R$	756	4800	No
v_R	633	1900	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1389$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1389	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 13.4$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.680	
Space mean speed in ramp influence area,	S _R = 51.0	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 51.0	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM Peak
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1354	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	158	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1354	158		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	376	44		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1572	183	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 1572 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	1572	4800	No
$v_{FO} = v_F - v_R$	1389	4800	No
v_R	183	2000	No
$v_3 \text{ or } v_{av34}$	0 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1572$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1572	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 15.7 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.444	
Space mean speed in ramp influence area,	S _R = 57.6	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 57.6	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM PEAK
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	651	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	345	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	545	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	651	345	545	vph
Peak-hour factor, PHF	0.90	0.90	0.90	
Peak 15-min volume, v15	181	96	151	v
Trucks and buses	9	9	9	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.957	0.957	0.957	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	756	401	633	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 756 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	1157	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 756	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1157	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 10.5 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.291	
	S	
Space mean speed in ramp influence area,	S = 61.9	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 61.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM Peak
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	2	
Free-flow speed on freeway	70.0	mph
Volume on freeway	1107	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	347	vph
Length of first accel/decel lane	255	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1107	347		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	308	96		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1285	403	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 1285$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	1285	4800	No
$v_{FO} = v_F - v_R$	882	4800	No
v_R	403	2000	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1285$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1285	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 13.0$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.464	
Space mean speed in ramp influence area,	S _R = 57.0	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 57.0	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM PEAK
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	760	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	614	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	760	614		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	211	171		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	882	713	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 882 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	1595	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 882	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1595	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.3 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.326	
	S	
Space mean speed in ramp influence area,	S = 60.9	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM Peak
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1985	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	972	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1985	972		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	551	270		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2305	1129	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 1.000 Using Equation 0

FD

$v_{12} = v_R + (v_F - v_R) P = 2305$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2305	4800	No
$v_{FO} = v_F - v_R$	1176	4800	No
v_R	1129	2000	No
v_3 or v_{av34}	0 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2305$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2305	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 22.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.530	
Space mean speed in ramp influence area,	S _R = 55.2	mph
Space mean speed in outer lanes,	S ₀ = N/A	mph
Space mean speed for all vehicles,	S = 55.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM PEAK
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2014
Description: I-95 SOAR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	2		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	1013	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	341	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1013	341		vph
Peak-hour factor, PHF	0.90	0.90		
Peak 15-min volume, v15	281	95		v
Trucks and buses	9	9		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.957	0.957	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1176	396	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 1.000 Using Equation 0

FM

v = v (P) = 1176 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	1572	4800	No
FO			
v or v	0 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	No	
3 av34	12		
If yes, v	= 1176	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1572	4600	No
R12			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.0 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.322	
	S	
Space mean speed in ramp influence area,	S = 61.0	mph
	R	
Space mean speed in outer lanes,	S = N/A	mph
	0	
Space mean speed for all vehicles,	S = 61.0	mph

Lanes, Volumes, Timings
89: Tomoka Farms Rd & SR 44

Existing Conditions- AM Peak Hour
1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	353	15	155	433	18	38	253	223	20	145	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.994				0.850		0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3518	0	1770	1863	1583	1770	1835	0
Flt Permitted	0.950			0.950			0.578			0.363		
Satd. Flow (perm)	1770	3539	1583	3433	3518	0	1077	1863	1583	676	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		4				242		6	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	384	16	168	471	20	41	275	242	22	158	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	384	16	168	491	0	41	275	242	22	175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

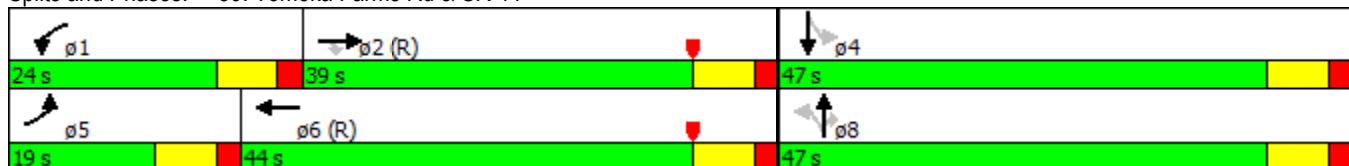


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	11.0	23.0	23.0	11.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	19.0	39.0	39.0	24.0	44.0		47.0	47.0	47.0	47.0	47.0	
Total Split (%)	17.3%	35.5%	35.5%	21.8%	40.0%		42.7%	42.7%	42.7%	42.7%	42.7%	
Maximum Green (s)	12.0	32.0	32.0	17.0	37.0		40.0	40.0	40.0	40.0	40.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	7.3	55.6	55.6	10.7	64.1		22.7	22.7	22.7	22.7	22.7	
Actuated g/C Ratio	0.07	0.51	0.51	0.10	0.58		0.21	0.21	0.21	0.21	0.21	
v/c Ratio	0.24	0.21	0.02	0.50	0.24		0.18	0.72	0.47	0.16	0.46	
Control Delay	53.0	17.1	0.1	52.1	13.8		35.2	50.5	7.2	35.4	39.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	17.1	0.1	52.1	13.8		35.2	50.5	7.2	35.4	39.4	
LOS	D	B	A	D	B		D	D	A	D	D	
Approach Delay		18.8			23.6			30.6			38.9	
Approach LOS		B			C			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	26.2
Intersection LOS:	C
Intersection Capacity Utilization	55.9%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 89: Tomoka Farms Rd & SR 44



Lanes, Volumes, Timings
1601: SR 44 & Sugar Mill Rd

Existing Conditions- AM Peak Hour
1/22/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Volume (vph)	62	766	1052	27	63	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Fl _t Permitted	0.183				0.950	
Satd. Flow (perm)	341	3539	3539	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				28		192
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	71	880	1209	31	72	192
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	880	1209	31	72	192
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	23.0	104.0	81.0	81.0	26.0	26.0
Total Split (%)	17.7%	80.0%	62.3%	62.3%	20.0%	20.0%
Maximum Green (s)	15.5	96.5	73.5	73.5	19.3	19.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	104.2	104.2	92.7	92.7	11.6	11.6
Actuated g/C Ratio	0.80	0.80	0.71	0.71	0.09	0.09
v/c Ratio	0.21	0.31	0.48	0.03	0.46	0.61
Control Delay	7.3	9.3	9.8	3.0	64.8	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	9.3	9.8	3.0	64.8	15.8
LOS	A	A	A	A	E	B
Approach Delay	9.1		9.7		29.2	
Approach LOS	A		A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 51 (39%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 11.6
 Intersection Capacity Utilization 57.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 1601: SR 44 & Sugar Mill Rd



Lanes, Volumes, Timings
 1602: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

Existing Conditions- AM Peak Hour

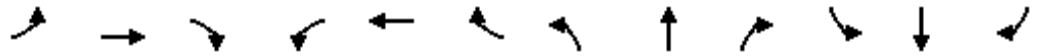
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘		↘			
Volume (vph)	121	776	0	0	664	555	254	0	52	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		150	0		210	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.932				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3299	0	1770	0	1583	0	0	0
Fl _t Permitted	0.153						0.950					
Satd. Flow (perm)	285	3539	0	0	3299	0	1770	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					354				59			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	138	882	0	0	755	631	289	0	59	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	882	0	0	1386	0	289	0	59	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			12				12
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA			NA		Perm		Perm			
Protected Phases		6			2							
Permitted Phases	6						4		4			
Detector Phase	6	6			2		4		4			

Lanes, Volumes, Timings
 1602: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

Existing Conditions- AM Peak Hour
 1/22/2015

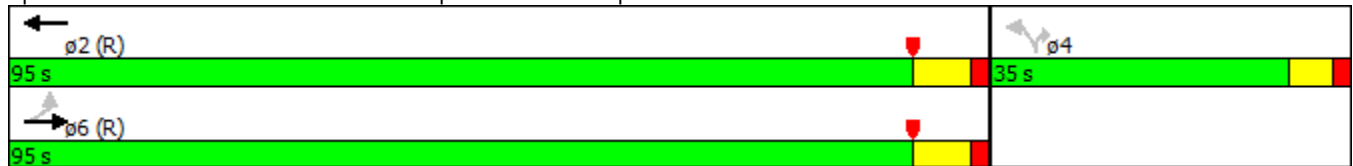


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	16.0	16.0			16.0		6.0		6.0			
Minimum Split (s)	23.5	23.5			23.5		22.1		22.1			
Total Split (s)	95.0	95.0			95.0		35.0		35.0			
Total Split (%)	73.1%	73.1%			73.1%		26.9%		26.9%			
Maximum Green (s)	87.5	87.5			87.5		28.9		28.9			
Yellow Time (s)	5.5	5.5			5.5		4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5		6.1		6.1			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0			4.0		4.0		4.0			
Recall Mode	C-Max	C-Max			C-Max		None		None			
Act Effct Green (s)	90.7	90.7			90.7		25.7		25.7			
Actuated g/C Ratio	0.70	0.70			0.70		0.20		0.20			
v/c Ratio	0.70	0.36			0.58		0.83		0.16			
Control Delay	31.1	6.8			19.1		69.7		11.0			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	31.1	6.8			19.1		69.7		11.0			
LOS	C	A			B		E		B			
Approach Delay		10.1			19.1							
Approach LOS		B			B							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 115 (88%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 20.9
 Intersection LOS: C
 Intersection Capacity Utilization 79.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1602: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Intersection												
Int Delay, s/veh	0.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	690	130	87	831	0	0	0	0	0	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	775	146	98	934	0	0	0	0	0	0	72

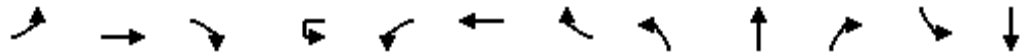
Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	934	0	0	775	0	0	1517	1904	467
Stage 1	-	-	-	-	-	-	1129	1129	-
Stage 2	-	-	-	-	-	-	388	775	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	729	-	-	837	-	-	110	68	542
Stage 1	-	-	-	-	-	-	271	277	-
Stage 2	-	-	-	-	-	-	655	406	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	729	-	-	837	-	-	97	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-	188	0	-
Stage 1	-	-	-	-	-	-	239	0	-
Stage 2	-	-	-	-	-	-	655	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.9	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	729	-	-	837	-	-	542
HCM Lane V/C Ratio	-	-	-	0.117	-	-	0.133
HCM Control Delay (s)	0	-	-	9.9	-	-	12.7
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.4	-	-	0.5

Lanes, Volumes, Timings
1604: SR 44 & Williamson Blvd

Existing Conditions- AM Peak Hour
1/22/2015



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑		↘		↑↑	↘				↘	
Volume (vph)	32	686	0	46	0	827	22	0	0	0	88	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		0		515		375	0		0	0	
Storage Lanes	1		0		1		1	0		0	1	
Taper Length (ft)	45				50			0			0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t							0.850					
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1770	3539	0	1770	0	3539	1583	0	0	0	1770	0
Flt Permitted	0.950			0.950							0.950	
Satd. Flow (perm)	1770	3539	0	1770	0	3539	1583	0	0	0	1770	0
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)							89					
Link Speed (mph)		65				65			30			30
Link Distance (ft)		874				1490			181			805
Travel Time (s)		9.2				15.6			4.1			18.3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	36	780	0	52	0	940	25	0	0	0	100	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	780	0	52	0	940	25	0	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		28				28			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1		2	1					1
Detector Template	Left	Thru		Left		Thru	Right					Left
Leading Detector (ft)	20	100		20		100	20					20
Trailing Detector (ft)	0	0		0		0	0					0
Detector 1 Position(ft)	0	0		0		0	0					0
Detector 1 Size(ft)	20	6		20		6	20					20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0					0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0					0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0					0.0
Detector 2 Position(ft)		94				94						
Detector 2 Size(ft)		6				6						
Detector 2 Type		Cl+Ex				Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0						
Turn Type	Prot	NA		Prot		NA	Perm					Prot
Protected Phases	1	6		5		2						8
Permitted Phases							2					
Detector Phase	1	6		5		2	2					8

Lane Group	SBR
Lane Configurations	7
Volume (vph)	28
Ideal Flow (vphpl)	1900
Storage Length (ft)	180
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Fr _t	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	89
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.88
Adj. Flow (vph)	32
Shared Lane Traffic (%)	
Lane Group Flow (vph)	32
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6



Lane Group	SBR
Switch Phase	
Minimum Initial (s)	16.0
Minimum Split (s)	23.5
Total Split (s)	64.0
Total Split (%)	49.2%
Maximum Green (s)	56.5
Yellow Time (s)	5.5
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	7.5
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	C-Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	89.6
Actuated g/C Ratio	0.69
v/c Ratio	0.03
Control Delay	0.0
Queue Delay	0.0
Total Delay	0.0
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	17	63	76	10	59	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	73	88	12	69	109

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	341	94	0 0 100 0
Stage 1	94	-	- - - -
Stage 2	247	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	655	963	- - 1493 -
Stage 1	930	-	- - - -
Stage 2	794	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	623	963	- - 1493 -
Mov Cap-2 Maneuver	623	-	- - - -
Stage 1	930	-	- - - -
Stage 2	755	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 863	1493	-
HCM Lane V/C Ratio	-	- 0.108	0.046	-
HCM Control Delay (s)	-	- 9.7	7.5	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.4	0.1	-

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	65	4	1	73	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	5	1	92	9	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	82	177
Stage 1	-	-	82
Stage 2	-	-	95
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1515	813
Stage 1	-	-	941
Stage 2	-	-	929
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1515	812
Mov Cap-2 Maneuver	-	-	812
Stage 1	-	-	941
Stage 2	-	-	928

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	830	-	-	1515	-
HCM Lane V/C Ratio	0.012	-	-	0.001	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lanes, Volumes, Timings
1801: Clyde Morris Blvd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑		↖	↑↑↑	↖	↖↖	↑↑		↖↖	↑	↖
Volume (vph)	273	1463	132	71	910	173	270	308	71	169	189	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Fr _t		0.988				0.850		0.972				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5024	0	1770	5085	1583	3433	3440	0	3433	1863	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5024	0	1770	5085	1583	3433	3440	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				190		19				187
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	300	1608	145	78	1000	190	297	338	78	186	208	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	300	1753	0	78	1000	190	297	416	0	186	208	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	8

Lanes, Volumes, Timings
1801: Clyde Morris Blvd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	26.0	52.0		22.0	48.0	48.0	26.0	53.0		23.0	50.0	50.0
Total Split (%)	17.3%	34.7%		14.7%	32.0%	32.0%	17.3%	35.3%		15.3%	33.3%	33.3%
Maximum Green (s)	18.0	44.5		14.0	40.5	40.5	19.0	45.5		15.5	42.5	42.5
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	19.2	66.5		12.9	60.2	60.2	17.2	27.0		13.1	23.4	23.4
Actuated g/C Ratio	0.13	0.44		0.09	0.40	0.40	0.11	0.18		0.09	0.16	0.16
v/c Ratio	0.68	0.79		0.52	0.49	0.25	0.75	0.66		0.62	0.72	0.46
Control Delay	94.9	19.9		76.8	36.2	5.5	76.9	58.9		75.2	73.4	10.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	94.9	19.9		76.8	36.2	5.5	76.9	58.9		75.2	73.4	10.3
LOS	F	B		E	D	A	E	E		E	E	B
Approach Delay		30.9			34.1			66.4			53.7	
Approach LOS		C			C			E			D	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 2 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 40.1

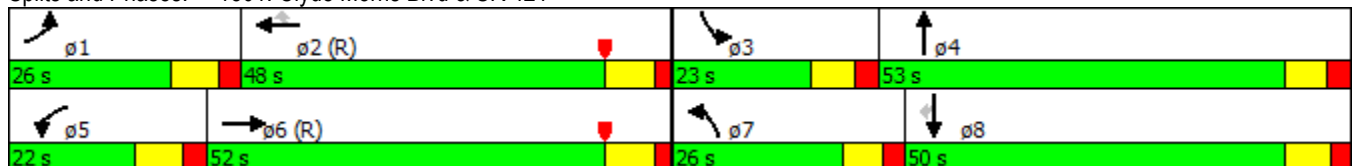
Intersection LOS: D

Intersection Capacity Utilization 78.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1801: Clyde Morris Blvd & SR 421



Lanes, Volumes, Timings
1802: Yorktowne Blvd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘	↑↑↑		↘↘	↑	↗	↘	↑↗	
Volume (vph)	49	1601	4	19	1227	104	414	48	37	230	30	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt					0.988				0.850		0.879	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	0	1770	5024	0	3433	1863	1583	1770	3111	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	0	1770	5024	0	3433	1863	1583	1770	3111	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10				145		132	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	56	1840	5	22	1410	120	476	55	43	264	34	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	1845	0	22	1530	0	476	55	43	264	175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			
Detector Phase	1	6		5	2		3	8	8	7	4	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	18.0	59.0		17.0	58.0		30.0	48.0	48.0	26.0	44.0	
Total Split (%)	12.0%	39.3%		11.3%	38.7%		20.0%	32.0%	32.0%	17.3%	29.3%	
Maximum Green (s)	9.5	51.0		9.0	50.0		23.0	41.0	41.0	19.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	10.1	85.1		7.4	79.3		22.7	13.5	13.5	22.9	10.3	
Actuated g/C Ratio	0.07	0.57		0.05	0.53		0.15	0.09	0.09	0.15	0.07	
v/c Ratio	0.47	0.64		0.25	0.57		0.92	0.33	0.16	0.98	0.52	
Control Delay	67.8	36.2		65.2	22.3		86.0	68.9	1.2	111.5	25.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	67.8	36.2		65.2	22.3		86.0	68.9	1.2	111.5	25.1	
LOS	E	D		E	C		F	E	A	F	C	
Approach Delay		37.1			22.9			78.0			77.0	
Approach LOS		D			C			E			E	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 4 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 41.3

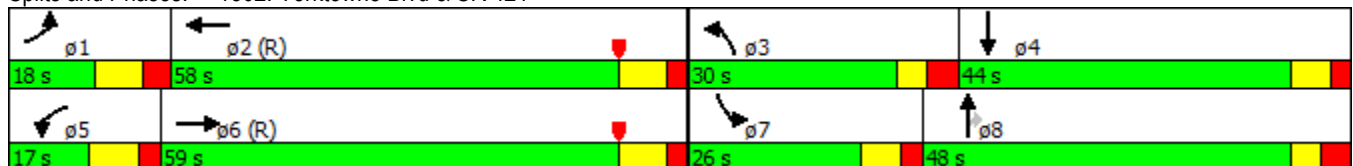
Intersection LOS: D

Intersection Capacity Utilization 80.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1802: Yorktowne Blvd & SR 421





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	1476	319	22	1742	0	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		261				165
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1587	343	24	1873	0	191
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1587	343	24	1873	0	191
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				
Detector Phase	6	6	5	2		4

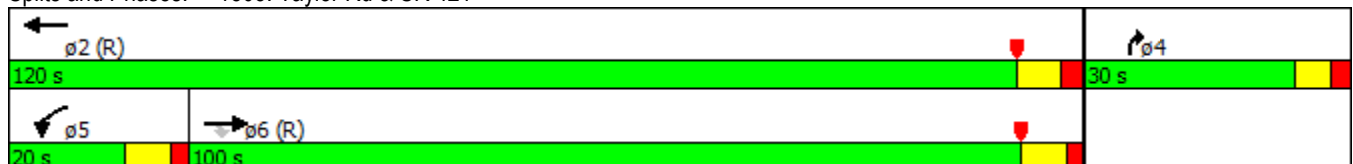


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	100.0	100.0	20.0	120.0		30.0
Total Split (%)	66.7%	66.7%	13.3%	80.0%		20.0%
Maximum Green (s)	93.0	93.0	13.0	112.5		23.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effct Green (s)	117.5	117.5	7.6	126.4		9.6
Actuated g/C Ratio	0.78	0.78	0.05	0.84		0.06
v/c Ratio	0.40	0.26	0.27	0.44		0.74
Control Delay	5.7	2.1	86.3	6.0		31.3
Queue Delay	0.1	0.0	0.0	0.0		0.0
Total Delay	5.8	2.1	86.3	6.0		31.3
LOS	A	A	F	A		C
Approach Delay	5.1			7.0		
Approach LOS	A			A		

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 106 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 7.2
 Intersection Capacity Utilization 50.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 1803: Taylor Rd & SR 421



Lanes, Volumes, Timings
 1804: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Existing Conditions- AM Peak Hour

1/22/2015

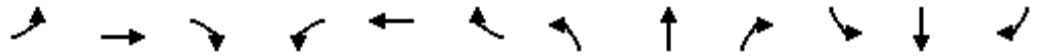


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	360	1538	0	0	913	829	83	0	257	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						554			87			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	1672	0	0	992	901	90	0	279	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	1672	0	0	992	901	90	0	279	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 1804: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Existing Conditions- AM Peak Hour

1/22/2015

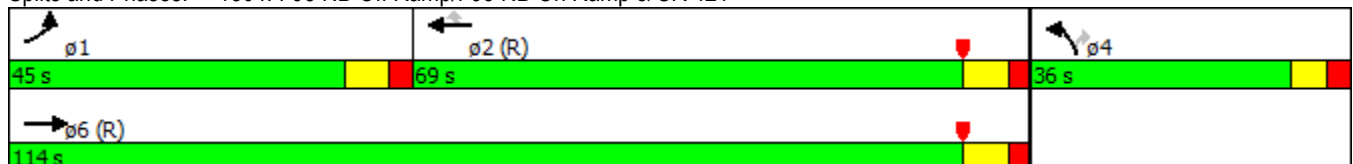


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	45.0	114.0			69.0	69.0	36.0		36.0			
Total Split (%)	30.0%	76.0%			46.0%	46.0%	24.0%		24.0%			
Maximum Green (s)	37.5	106.5			61.5	61.5	29.0		29.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	22.4	119.5			89.6	89.6	16.0		16.0			
Actuated g/C Ratio	0.15	0.80			0.60	0.60	0.11		0.11			
v/c Ratio	0.76	0.41			0.33	0.77	0.48		0.75			
Control Delay	89.0	5.2			9.3	20.7	70.6		56.6			
Queue Delay	0.0	0.1			0.0	0.9	0.0		0.0			
Total Delay	89.0	5.3			9.3	21.7	70.6		56.6			
LOS	F	A			A	C	E		E			
Approach Delay		21.2			15.2							
Approach LOS		C			B							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 91 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 21.9
 Intersection Capacity Utilization 88.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 1804: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
 1805: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Existing Conditions- AM Peak Hour

1/22/2015

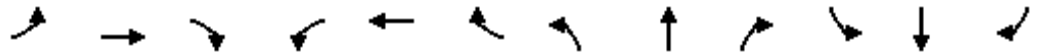


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑					↖↖		↖↖
Volume (vph)	0	1495	74	160	836	0	0	0	0	403	0	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	1		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.993										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5050	0	1770	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5050	0	1770	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7										137
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1625	80	174	909	0	0	0	0	438	0	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1705	0	174	909	0	0	0	0	438	0	137
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8

Lanes, Volumes, Timings
 1805: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Existing Conditions- AM Peak Hour

1/22/2015

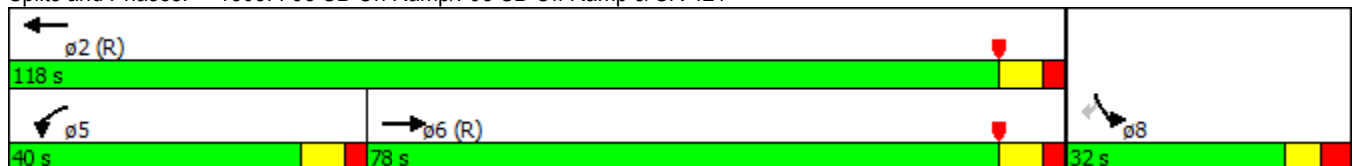


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		78.0		40.0	118.0					32.0		32.0
Total Split (%)		52.0%		26.7%	78.7%					21.3%		21.3%
Maximum Green (s)		70.5		32.5	110.5					24.5		24.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effct Green (s)		84.6		20.1	112.2					22.8		22.8
Actuated g/C Ratio		0.56		0.13	0.75					0.15		0.15
v/c Ratio		0.60		0.74	0.34					0.84		0.25
Control Delay		21.0		102.6	3.3					76.7		9.3
Queue Delay		0.1		0.0	0.1					0.0		0.0
Total Delay		21.1		102.6	3.3					76.7		9.3
LOS		C		F	A					E		A
Approach Delay		21.1			19.3							
Approach LOS		C			B							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 79 (53%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 27.2
 Intersection LOS: C
 Intersection Capacity Utilization 88.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1805: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
1806: Williamson Blvd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗↘		↖↗	↖↗	↖	↖↗	↖↗	↖↗	↖↗	↖↗	↖↗
Volume (vph)	28	622	78	356	397	209	88	277	758	189	122	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		1	2		1	2		1	3		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Fr _t		0.983				0.850			0.850		0.982	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4999	0	3433	3539	1583	3433	3539	2787	3433	3476	0
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4999	0	3433	3539	1583	3433	3539	2787	3433	3476	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				218			528		9	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	648	81	371	414	218	92	289	790	197	127	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	729	0	371	414	218	92	289	790	197	144	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	7	4	4	3	8	

Lanes, Volumes, Timings
1806: Williamson Blvd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015

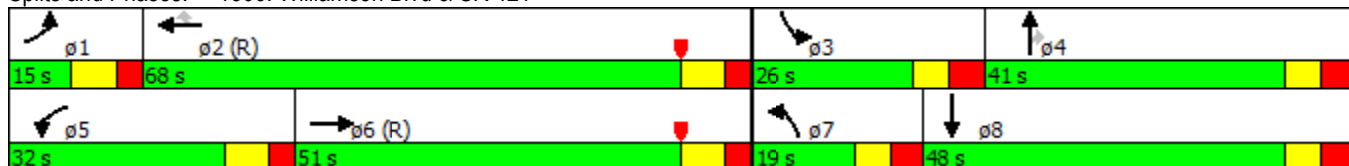


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	40.0	12.5	23.5	23.5	13.0	47.5	
Total Split (s)	15.0	51.0		32.0	68.0	68.0	19.0	41.0	41.0	26.0	48.0	
Total Split (%)	10.0%	34.0%		21.3%	45.3%	45.3%	12.7%	27.3%	27.3%	17.3%	32.0%	
Maximum Green (s)	7.0	43.0		24.0	60.0	60.0	11.5	33.5	33.5	18.0	40.5	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	3.5	3.5	3.5	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	7.5	8.0	7.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0			7.0	7.0					7.0	
Flash Dont Walk (s)		36.0			25.0	25.0					33.0	
Pedestrian Calls (#/hr)		0			0	0					0	
Act Effct Green (s)	6.5	58.3		20.9	78.2	78.2	9.3	25.4	25.4	13.9	30.5	
Actuated g/C Ratio	0.04	0.39		0.14	0.52	0.52	0.06	0.17	0.17	0.09	0.20	
v/c Ratio	0.19	0.37		0.78	0.22	0.23	0.43	0.48	0.87	0.62	0.20	
Control Delay	72.0	34.9		105.7	8.7	1.3	73.8	57.9	29.9	73.9	45.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	72.0	34.9		105.7	8.7	1.3	73.8	57.9	29.9	73.9	45.1	
LOS	E	C		F	A	A	E	E	C	E	D	
Approach Delay		36.3			43.0			40.3			61.7	
Approach LOS		D			D			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 79 (53%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 42.4
 Intersection LOS: D
 Intersection Capacity Utilization 65.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1806: Williamson Blvd & SR 421



Lanes, Volumes, Timings
1807: Summertrees Rd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	98	657	6	19	468	14	21	28	26	45	5	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.862
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1606	0
Flt Permitted	0.950			0.950			0.708			0.575		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1319	1863	1583	1071	1606	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150			150			150			70
Link Speed (mph)		30			45			25			30	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	111	747	7	22	532	16	24	32	30	51	6	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	747	7	22	532	16	24	32	30	51	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	

Lanes, Volumes, Timings
1807: Summertrees Rd & SR 421

Existing Conditions- AM Peak Hour

1/22/2015

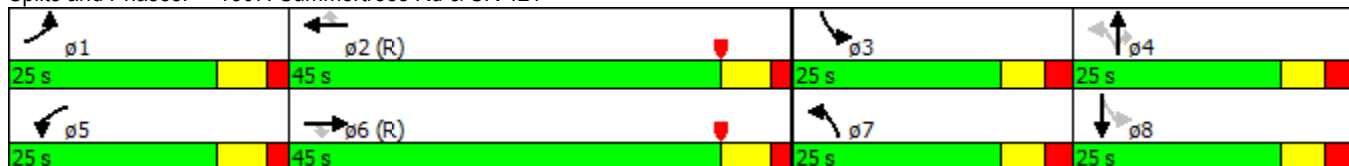


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	25.0	45.0	45.0	25.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0	
Total Split (%)	20.8%	37.5%	37.5%	20.8%	37.5%	37.5%	20.8%	20.8%	20.8%	20.8%	20.8%	
Maximum Green (s)	18.5	38.5	38.5	18.5	38.5	38.5	18.5	18.5	18.5	18.5	18.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	12.8	80.5	80.5	7.6	68.6	68.6	15.0	10.0	10.0	18.9	13.9	
Actuated g/C Ratio	0.11	0.67	0.67	0.06	0.57	0.57	0.12	0.08	0.08	0.16	0.12	
v/c Ratio	0.59	0.60	0.01	0.20	0.50	0.02	0.13	0.21	0.11	0.24	0.31	
Control Delay	63.1	18.7	0.0	57.2	20.9	0.0	39.1	54.9	0.8	41.0	16.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.1	18.7	0.0	57.2	20.9	0.0	39.1	54.9	0.8	41.0	16.9	
LOS	E	B	A	E	C	A	D	D	A	D	B	
Approach Delay		24.3			21.7			31.6			26.5	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 16 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 23.9
 Intersection Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C























Splits and Phases: 1807: Summertrees Rd & SR 421



Lanes, Volumes, Timings
89: Tomoka Farms Rd & SR 44

Existing Conditions - PM Peak Hour

1/22/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	509	20	256	409	27	30	155	240	18	247	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3507	0	1770	1863	1583	1770	1840	0
Flt Permitted	0.950			0.950			0.329			0.594		
Satd. Flow (perm)	1770	3539	1583	3433	3507	0	613	1863	1583	1106	1840	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			119		8				261		4	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	553	22	278	445	29	33	168	261	20	268	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	553	22	278	474	0	33	168	261	20	292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

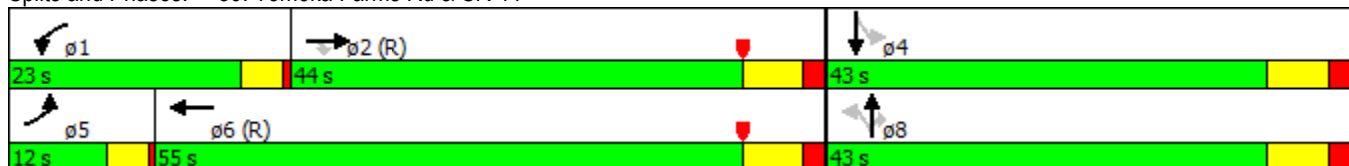


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	12.0	44.0	44.0	23.0	55.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	10.9%	40.0%	40.0%	20.9%	50.0%		39.1%	39.1%	39.1%	39.1%	39.1%	
Maximum Green (s)	8.0	37.0	37.0	19.0	48.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	3.5	5.0	5.0	3.5	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	8.0	55.0	55.0	14.1	65.2		22.8	22.8	22.8	22.8	22.8	
Actuated g/C Ratio	0.07	0.50	0.50	0.13	0.59		0.21	0.21	0.21	0.21	0.21	
v/c Ratio	0.32	0.31	0.03	0.63	0.23		0.26	0.44	0.49	0.09	0.76	
Control Delay	54.2	18.4	0.1	51.8	12.8		39.5	40.3	7.2	33.1	52.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	54.2	18.4	0.1	51.8	12.8		39.5	40.3	7.2	33.1	52.8	
LOS	D	B	A	D	B		D	D	A	C	D	
Approach Delay		20.1			27.2			21.6			51.5	
Approach LOS		C			C			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 27.5
 Intersection LOS: C
 Intersection Capacity Utilization 59.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 89: Tomoka Farms Rd & SR 44



Lanes, Volumes, Timings
1601: SR 44 & Sugar Mill Rd

Existing Conditions - PM Peak Hour
1/22/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Volume (vph)	145	1287	1030	65	54	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Fl _t Permitted	0.196				0.950	
Satd. Flow (perm)	365	3539	3539	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				68		115
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	167	1479	1184	75	62	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	167	1479	1184	75	62	115
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	26.0	136.0	110.0	110.0	24.0	24.0
Total Split (%)	16.3%	85.0%	68.8%	68.8%	15.0%	15.0%
Maximum Green (s)	18.5	128.5	102.5	102.5	17.3	17.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	133.9	133.9	118.0	118.0	11.9	11.9
Actuated g/C Ratio	0.84	0.84	0.74	0.74	0.07	0.07
v/c Ratio	0.44	0.50	0.45	0.06	0.47	0.51
Control Delay	4.8	2.0	9.3	1.9	81.9	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	2.0	9.3	1.9	81.9	19.0
LOS	A	A	A	A	F	B
Approach Delay		2.2	8.9		41.0	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 54 (34%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 7.2
 Intersection Capacity Utilization 59.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 1601: SR 44 & Sugar Mill Rd



Lanes, Volumes, Timings
 1602: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

Existing Conditions - PM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘		↘			
Volume (vph)	84	1336	0	0	788	342	171	0	96	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		150	0		210	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.955				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3380	0	1770	0	1583	0	0	0
Flt Permitted	0.179						0.950					
Satd. Flow (perm)	333	3539	0	0	3380	0	1770	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					165				61			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	1518	0	0	895	389	194	0	109	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	1518	0	0	1284	0	194	0	109	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			12				12
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Perm	NA			NA		Perm		Perm			
Protected Phases		6			2							
Permitted Phases	6						4		4			
Detector Phase	6	6			2		4		4			

Lanes, Volumes, Timings
 1602: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

Existing Conditions - PM Peak Hour

1/22/2015

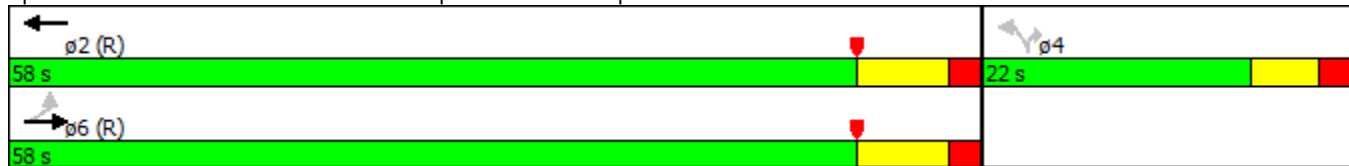


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	16.0	16.0			16.0		6.0		6.0			
Minimum Split (s)	23.5	23.5			23.5		22.1		22.1			
Total Split (s)	58.0	58.0			58.0		22.0		22.0			
Total Split (%)	72.5%	72.5%			72.5%		27.5%		27.5%			
Maximum Green (s)	50.5	50.5			50.5		15.9		15.9			
Yellow Time (s)	5.5	5.5			5.5		4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5		6.1		6.1			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0			4.0		4.0		4.0			
Recall Mode	C-Max	C-Max			C-Max		None		None			
Act Effct Green (s)	52.6	52.6			52.6		13.8		13.8			
Actuated g/C Ratio	0.66	0.66			0.66		0.17		0.17			
v/c Ratio	0.43	0.65			0.56		0.64		0.34			
Control Delay	13.9	10.8			5.3		40.4		17.2			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	13.9	10.8			5.3		40.4		17.2			
LOS	B	B			A		D		B			
Approach Delay		11.0			5.3							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 20 (25%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 10.7
 Intersection LOS: B
 Intersection Capacity Utilization 71.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1602: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Intersection												
Int Delay, s/veh	1.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	875	254	91	868	0	0	0	0	0	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	983	285	102	975	0	0	0	0	0	0	178

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	975	0	0	983	0	0	1672	2163	488
Stage 1	-	-	-	-	-	-	1180	1180	-
Stage 2	-	-	-	-	-	-	492	983	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	703	-	-	698	-	-	87	47	526
Stage 1	-	-	-	-	-	-	254	262	-
Stage 2	-	-	-	-	-	-	580	325	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	703	-	-	698	-	-	74	0	526
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	0	-
Stage 1	-	-	-	-	-	-	217	0	-
Stage 2	-	-	-	-	-	-	580	0	-

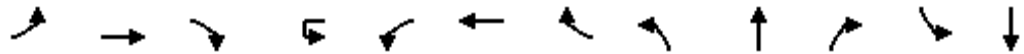
Approach	EB	WB	SB
HCM Control Delay, s	0	1	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	703	-	-	698	-	-	526
HCM Lane V/C Ratio	-	-	-	0.146	-	-	0.338
HCM Control Delay (s)	0	-	-	11	-	-	15.3
HCM Lane LOS	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0	-	-	0.5	-	-	1.5

Lanes, Volumes, Timings
1604: SR 44 & Williamson Blvd

Existing Conditions - PM Peak Hour

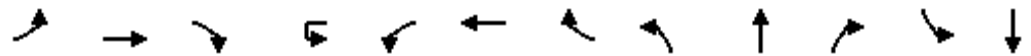
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Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑		↘		↑↑	↗				↘	
Volume (vph)	62	774	0	63	0	943	20	0	0	0	292	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		0		515		375	0		0	0	
Storage Lanes	1		0		1		1	0		0	1	
Taper Length (ft)	45				50			0			0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr t							0.850					
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1770	3539	0	1770	0	3539	1583	0	0	0	1770	0
Flt Permitted	0.950			0.950							0.950	
Satd. Flow (perm)	1770	3539	0	1770	0	3539	1583	0	0	0	1770	0
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)							72					
Link Speed (mph)		65				65		30				30
Link Distance (ft)		874				1490		181				805
Travel Time (s)		9.2				15.6		4.1				18.3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	70	880	0	72	0	1072	23	0	0	0	332	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	880	0	72	0	1072	23	0	0	0	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		28				28		12			12	
Link Offset(ft)		0				0		0			0	
Crosswalk Width(ft)		16				16		16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1		2	1				1	
Detector Template	Left	Thru		Left		Thru	Right				Left	
Leading Detector (ft)	20	100		20		100	20				20	
Trailing Detector (ft)	0	0		0		0	0				0	
Detector 1 Position(ft)	0	0		0		0	0				0	
Detector 1 Size(ft)	20	6		20		6	20				20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Detector 2 Position(ft)		94				94						
Detector 2 Size(ft)		6				6						
Detector 2 Type		Cl+Ex				Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0						
Turn Type	Prot	NA		Prot		NA	Perm				Prot	
Protected Phases	1	6		5		2					8	
Permitted Phases							2					
Detector Phase	1	6		5		2	2				8	



Lane Group	SBR
Lane Configurations	7
Volume (vph)	63
Ideal Flow (vphpl)	1900
Storage Length (ft)	180
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Fr _t	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	82
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.88
Adj. Flow (vph)	72
Shared Lane Traffic (%)	
Lane Group Flow (vph)	72
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Detector Phase	8

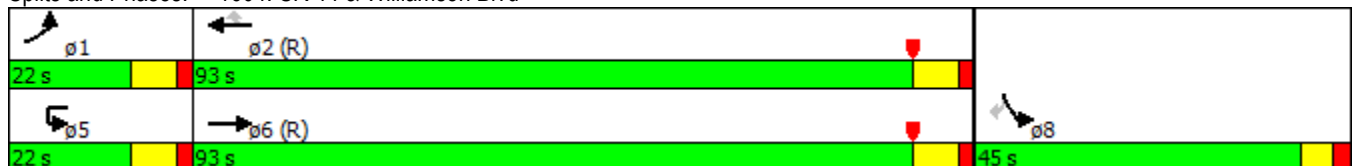


Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	5.0	16.0		5.0		16.0	16.0					7.0
Minimum Split (s)	12.5	23.5		12.5		36.5	36.5					44.1
Total Split (s)	22.0	93.0		22.0		93.0	93.0					45.0
Total Split (%)	13.8%	58.1%		13.8%		58.1%	58.1%					28.1%
Maximum Green (s)	14.5	85.5		14.5		85.5	85.5					38.9
Yellow Time (s)	5.5	5.5		5.5		5.5	5.5					3.7
All-Red Time (s)	2.0	2.0		2.0		2.0	2.0					2.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0					0.0
Total Lost Time (s)	7.5	7.5		7.5		7.5	7.5					6.1
Lead/Lag	Lead	Lag		Lead		Lag	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes					
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0					3.0
Recall Mode	None	C-Max		None		C-Max	C-Max					None
Walk Time (s)						7.0	7.0					7.0
Flash Dont Walk (s)						22.0	22.0					31.0
Pedestrian Calls (#/hr)						0	0					0
Act Effct Green (s)	11.3	93.4		11.4		93.5	93.5					34.1
Actuated g/C Ratio	0.07	0.58		0.07		0.58	0.58					0.21
v/c Ratio	0.56	0.43		0.57		0.52	0.02					0.88
Control Delay	88.3	20.2		84.9		21.4	0.2					85.0
Queue Delay	0.0	0.0		0.0		0.0	0.0					0.0
Total Delay	88.3	20.2		84.9		21.4	0.2					85.0
LOS	F	C		F		C	A					F
Approach Delay		25.2				24.9						
Approach LOS		C				C						

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 21 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 32.5
 Intersection Capacity Utilization 62.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 1604: SR 44 & Williamson Blvd





Lane Group	SBR
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	44.1
Total Split (s)	45.0
Total Split (%)	28.1%
Maximum Green (s)	38.9
Yellow Time (s)	3.7
All-Red Time (s)	2.4
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	31.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	34.1
Actuated g/C Ratio	0.21
v/c Ratio	0.18
Control Delay	7.9
Queue Delay	0.0
Total Delay	7.9
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	17	74	98	18	84	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	86	114	21	98	107

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	426	124	0 0 135 0
Stage 1	124	-	- - - -
Stage 2	302	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	585	927	- - 1449 -
Stage 1	902	-	- - - -
Stage 2	750	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	543	927	- - 1449 -
Mov Cap-2 Maneuver	543	-	- - - -
Stage 1	902	-	- - - -
Stage 2	696	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	10	0	3.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	819	1449
HCM Lane V/C Ratio	-	-	0.129	0.067
HCM Control Delay (s)	-	-	10	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	96	6	3	87	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	8	4	110	5	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	122
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1465
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1465
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	798	-	-	1465	-
HCM Lane V/C Ratio	0.01	-	-	0.003	-
HCM Control Delay (s)	9.6	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection												
Int Delay, s/veh	2.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	41	156	12	13	146	13	9	4	10	10	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	175	195	-	180	130	-	-	110	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	166	13	14	155	14	10	4	11	11	2	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	155	0	0	166	0	0	437	436	166	444	436	155
Stage 1	-	-	-	-	-	-	253	253	-	183	183	-
Stage 2	-	-	-	-	-	-	184	183	-	261	253	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1425	-	-	1412	-	-	530	514	878	524	514	891
Stage 1	-	-	-	-	-	-	751	698	-	819	748	-
Stage 2	-	-	-	-	-	-	818	748	-	744	698	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1425	-	-	1412	-	-	496	493	878	498	493	891
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	493	-	498	493	-
Stage 1	-	-	-	-	-	-	728	676	-	794	741	-
Stage 2	-	-	-	-	-	-	782	741	-	708	676	-











































Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.6	11	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	496	718	1425	-	-	1412	-	-	498	891
HCM Lane V/C Ratio	0.019	0.021	0.031	-	-	0.01	-	-	0.021	0.031
HCM Control Delay (s)	12.4	10.1	7.6	-	-	7.6	-	-	12.4	9.2
HCM Lane LOS	B	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0.1	0.1	-	-	0	-	-	0.1	0.1

Lanes, Volumes, Timings
1801: Clyde Morris Blvd & SR 421

Existing Conditions - PM Peak Hour

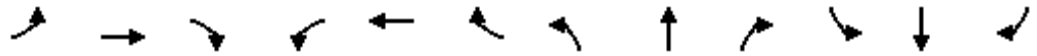
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  	  		  	   	  	  	 		  	  	  
Volume (vph)	332	1093	78	7	1296	235	281	283	56	283	325	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Fr _t		0.990				0.850		0.975				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5034	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5034	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				230		15				249
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	365	1201	86	8	1424	258	309	311	62	311	357	354
Shared Lane Traffic (%)												
Lane Group Flow (vph)	365	1287	0	8	1424	258	309	373	0	311	357	354
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	8

Lanes, Volumes, Timings
1801: Clyde Morris Blvd & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

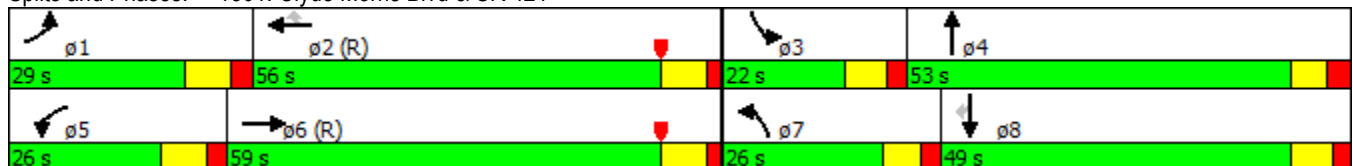


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	29.0	59.0		26.0	56.0	56.0	26.0	53.0		22.0	49.0	49.0
Total Split (%)	18.1%	36.9%		16.3%	35.0%	35.0%	16.3%	33.1%		13.8%	30.6%	30.6%
Maximum Green (s)	21.0	51.5		18.0	48.5	48.5	19.0	45.5		14.5	41.5	41.5
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	20.9	80.1		7.3	54.5	54.5	17.9	39.6		14.5	36.7	36.7
Actuated g/C Ratio	0.13	0.50		0.05	0.34	0.34	0.11	0.25		0.09	0.23	0.23
v/c Ratio	0.81	0.51		0.10	0.82	0.37	0.81	0.43		1.00	0.84	0.64
Control Delay	116.6	9.7		75.3	54.1	8.7	85.7	49.3		122.0	75.9	21.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	116.6	9.7		75.3	54.1	8.7	85.7	49.3		122.0	75.9	21.0
LOS	F	A		E	D	A	F	D		F	E	C
Approach Delay		33.4			47.3			65.8			70.9	
Approach LOS		C			D			E			E	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	4 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	50.0
Intersection LOS:	D
Intersection Capacity Utilization	84.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1801: Clyde Morris Blvd & SR 421



Lanes, Volumes, Timings
1802: Yorktowne Blvd & SR 421

Existing Conditions - PM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘	↑↑↑		↘↘	↑	↗	↘	↑↗	
Volume (vph)	95	1221	7	90	1672	137	313	43	65	217	62	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.999			0.989				0.850		0.927	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5080	0	1770	5029	0	3433	1863	1583	1770	3281	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5080	0	1770	5029	0	3433	1863	1583	1770	3281	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10				140		68	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	109	1403	8	103	1922	157	360	49	75	249	71	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1411	0	103	2079	0	360	49	75	249	139	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			
Detector Phase	1	6		5	2		3	8	8	7	4	

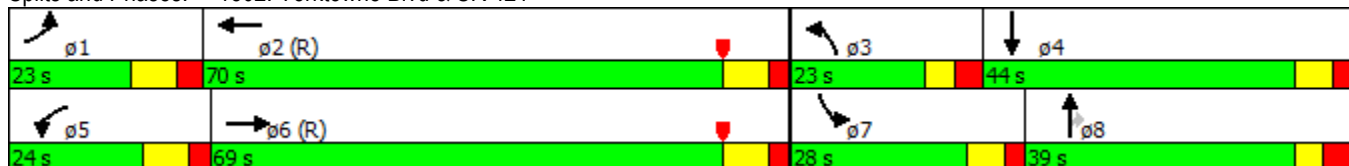


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	23.0	69.0		24.0	70.0		23.0	39.0	39.0	28.0	44.0	
Total Split (%)	14.4%	43.1%		15.0%	43.8%		14.4%	24.4%	24.4%	17.5%	27.5%	
Maximum Green (s)	14.5	61.0		16.0	62.0		16.0	32.0	32.0	21.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	15.3	83.6		14.6	82.3		16.0	10.9	10.9	21.0	15.9	
Actuated g/C Ratio	0.10	0.52		0.09	0.51		0.10	0.07	0.07	0.13	0.10	
v/c Ratio	0.64	0.53		0.64	0.80		1.05	0.39	0.32	1.07	0.36	
Control Delay	85.1	38.3		69.0	40.0		129.0	80.3	3.5	142.7	36.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	85.1	38.3		69.0	40.0		129.0	80.3	3.5	142.7	36.6	
LOS	F	D		E	D		F	F	A	F	D	
Approach Delay		41.7			41.4			104.6			104.7	
Approach LOS		D			D			F			F	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	3 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	145
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	53.6
Intersection LOS:	D
Intersection Capacity Utilization	86.4%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1802: Yorktowne Blvd & SR 421





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↓	↑↑↑		↓
Volume (vph)	1593	624	55	1989	0	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Fr _t		0.850				0.865
Fl _t Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Fl _t Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		449				219
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1713	671	59	2139	0	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1713	671	59	2139	0	139
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				
Detector Phase	6	6	5	2		4

Lanes, Volumes, Timings
 1804: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

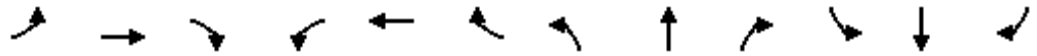


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	195	1975	0	0	1570	419	105	0	242	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						403			82			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	2147	0	0	1707	455	114	0	263	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	2147	0	0	1707	455	114	0	263	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 1804: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

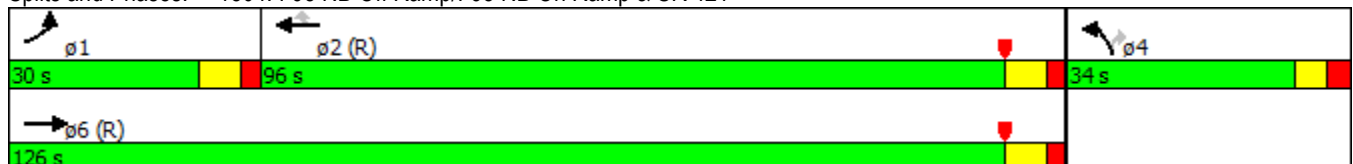


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	30.0	126.0			96.0	96.0	34.0		34.0			
Total Split (%)	18.8%	78.8%			60.0%	60.0%	21.3%		21.3%			
Maximum Green (s)	22.5	118.5			88.5	88.5	27.0		27.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	15.2	129.5			106.8	106.8	16.0		16.0			
Actuated g/C Ratio	0.10	0.81			0.67	0.67	0.10		0.10			
v/c Ratio	0.65	0.52			0.50	0.38	0.64		0.75			
Control Delay	62.6	6.9			12.5	3.6	85.2		60.7			
Queue Delay	0.0	0.3			0.1	0.2	0.0		0.0			
Total Delay	62.6	7.2			12.6	3.8	85.2		60.7			
LOS	E	A			B	A	F		E			
Approach Delay		12.2			10.7							
Approach LOS		B			B							

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 98 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 15.8
 Intersection Capacity Utilization 83.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 1804: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
 1805: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

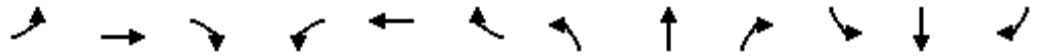


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑					↖↖		↖↖
Volume (vph)	0	1421	96	245	1430	0	0	0	0	749	0	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	1		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.991										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5040	0	1770	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5040	0	1770	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8										82
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1545	104	266	1554	0	0	0	0	814	0	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1649	0	266	1554	0	0	0	0	814	0	242
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8

Lanes, Volumes, Timings
 1805: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

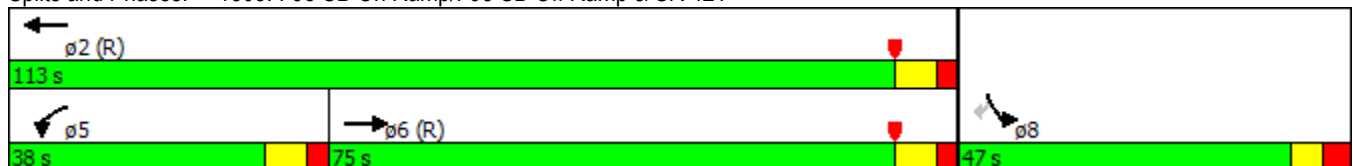


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		75.0		38.0	113.0					47.0		47.0
Total Split (%)		46.9%		23.8%	70.6%					29.4%		29.4%
Maximum Green (s)		67.5		30.5	105.5					39.5		39.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effct Green (s)		70.5		27.6	105.6					39.4		39.4
Actuated g/C Ratio		0.44		0.17	0.66					0.25		0.25
v/c Ratio		0.74		0.88	0.67					0.96		0.32
Control Delay		37.6		114.1	7.5					82.3		33.4
Queue Delay		0.1		0.0	0.0					0.0		0.0
Total Delay		37.7		114.1	7.5					82.3		33.4
LOS		D		F	A					F		C
Approach Delay		37.7			23.1							
Approach LOS		D			C							

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 88 (55%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 39.6
 Intersection LOS: D
 Intersection Capacity Utilization 83.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1805: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
1806: Williamson Blvd & SR 421

Existing Conditions - PM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	585	95	634	736	283	68	183	461	471	414	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		1	2		1	2		1	3		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.979				0.850			0.850			0.987
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3493	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				295			480			6
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	50	609	99	660	767	295	71	191	480	491	431	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	708	0	660	767	295	71	191	480	491	472	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	2	7	4	4	3	8	

Lanes, Volumes, Timings
1806: Williamson Blvd & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

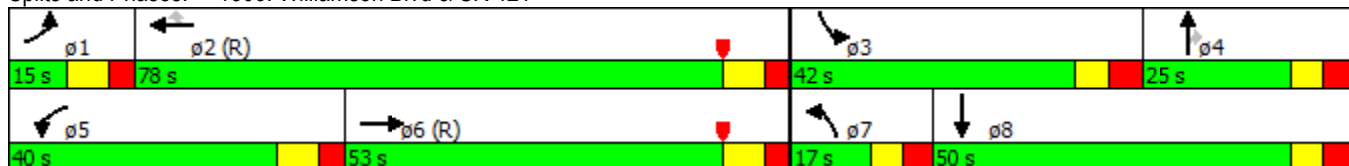


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	15.5	51.0		13.0	40.0	40.0	12.5	23.5	23.5	13.0	47.5	
Total Split (s)	15.0	53.0		40.0	78.0	78.0	17.0	25.0	25.0	42.0	50.0	
Total Split (%)	9.4%	33.1%		25.0%	48.8%	48.8%	10.6%	15.6%	15.6%	26.3%	31.3%	
Maximum Green (s)	7.0	45.0		32.0	70.0	70.0	9.5	17.5	17.5	34.0	42.5	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	3.5	3.5	3.5	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	7.5	8.0	7.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0			7.0	7.0					7.0	
Flash Dont Walk (s)		36.0			25.0	25.0					33.0	
Pedestrian Calls (#/hr)		0			0	0					0	
Act Effct Green (s)	7.2	51.2		34.6	81.4	81.4	8.4	14.7	14.7	28.0	34.8	
Actuated g/C Ratio	0.04	0.32		0.22	0.51	0.51	0.05	0.09	0.09	0.18	0.22	
v/c Ratio	0.32	0.44		0.89	0.43	0.31	0.40	0.59	0.69	0.82	0.62	
Control Delay	79.6	44.0		74.4	11.5	1.4	79.7	77.0	10.9	74.9	58.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	79.6	44.0		74.4	11.5	1.4	79.7	77.0	10.9	74.9	58.9	
LOS	E	D		E	B	A	E	E	B	E	E	
Approach Delay		46.4			33.9			34.5			67.0	
Approach LOS		D			C			C			E	

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 97 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 43.9
 Intersection Capacity Utilization 79.1%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 1806: Williamson Blvd & SR 421



Lanes, Volumes, Timings
1807: Summertrees Rd & SR 421

Existing Conditions - PM Peak Hour

1/22/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	647	15	44	760	39	11	17	23	58	38	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.876
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1632	0
Flt Permitted	0.950			0.950			0.346			0.545		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	645	1863	1583	1015	1632	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			129			129			144
Link Speed (mph)		30			45			25			30	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	100	735	17	50	864	44	12	19	26	66	43	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	735	17	50	864	44	12	19	26	66	244	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	

Lanes, Volumes, Timings
1807: Summertrees Rd & SR 421

Existing Conditions - PM Peak Hour

1/22/2015

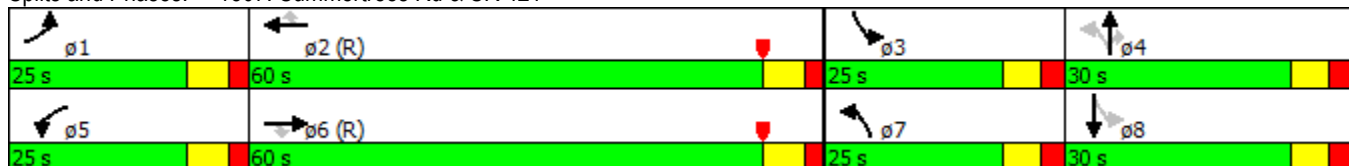


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	25.0	60.0	60.0	25.0	60.0	60.0	25.0	30.0	30.0	25.0	30.0	
Total Split (%)	17.9%	42.9%	42.9%	17.9%	42.9%	42.9%	17.9%	21.4%	21.4%	17.9%	21.4%	
Maximum Green (s)	18.5	53.5	53.5	18.5	53.5	53.5	18.5	23.5	23.5	18.5	23.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	13.2	87.3	87.3	9.6	80.9	80.9	17.2	12.6	12.6	25.7	20.9	
Actuated g/C Ratio	0.09	0.62	0.62	0.07	0.58	0.58	0.12	0.09	0.09	0.18	0.15	
v/c Ratio	0.60	0.63	0.02	0.41	0.80	0.05	0.09	0.11	0.10	0.28	0.67	
Control Delay	75.1	23.4	0.0	72.1	33.0	0.1	42.7	58.0	0.8	47.3	31.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	75.1	23.4	0.0	72.1	33.0	0.1	42.7	58.0	0.8	47.3	31.7	
LOS	E	C	A	E	C	A	D	E	A	D	C	
Approach Delay		29.0			33.6			28.7			35.0	
Approach LOS		C			C			C			D	

Intersection Summary

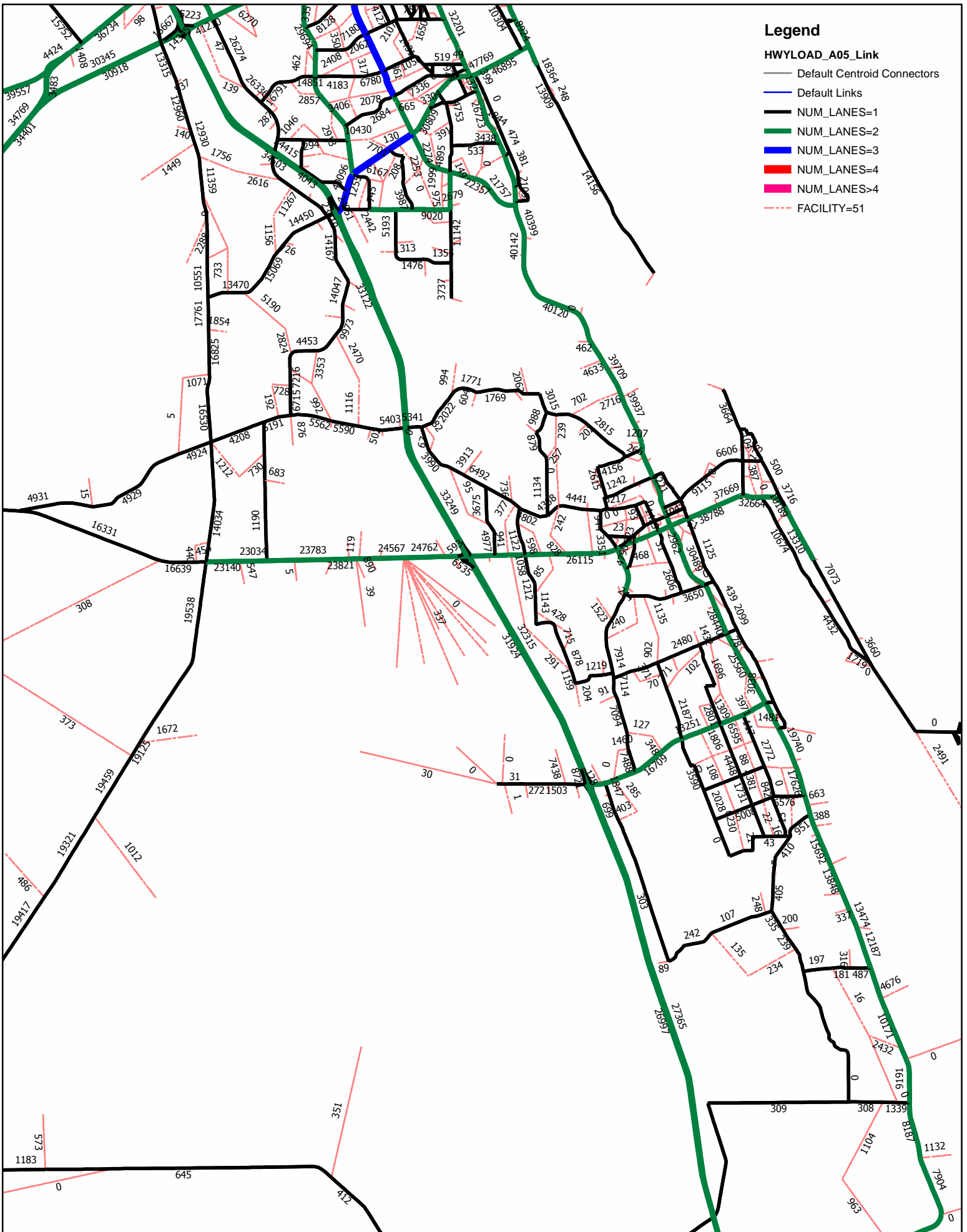
Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 37 (26%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 31.9
 Intersection Capacity Utilization 75.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 1807: Summertrees Rd & SR 421

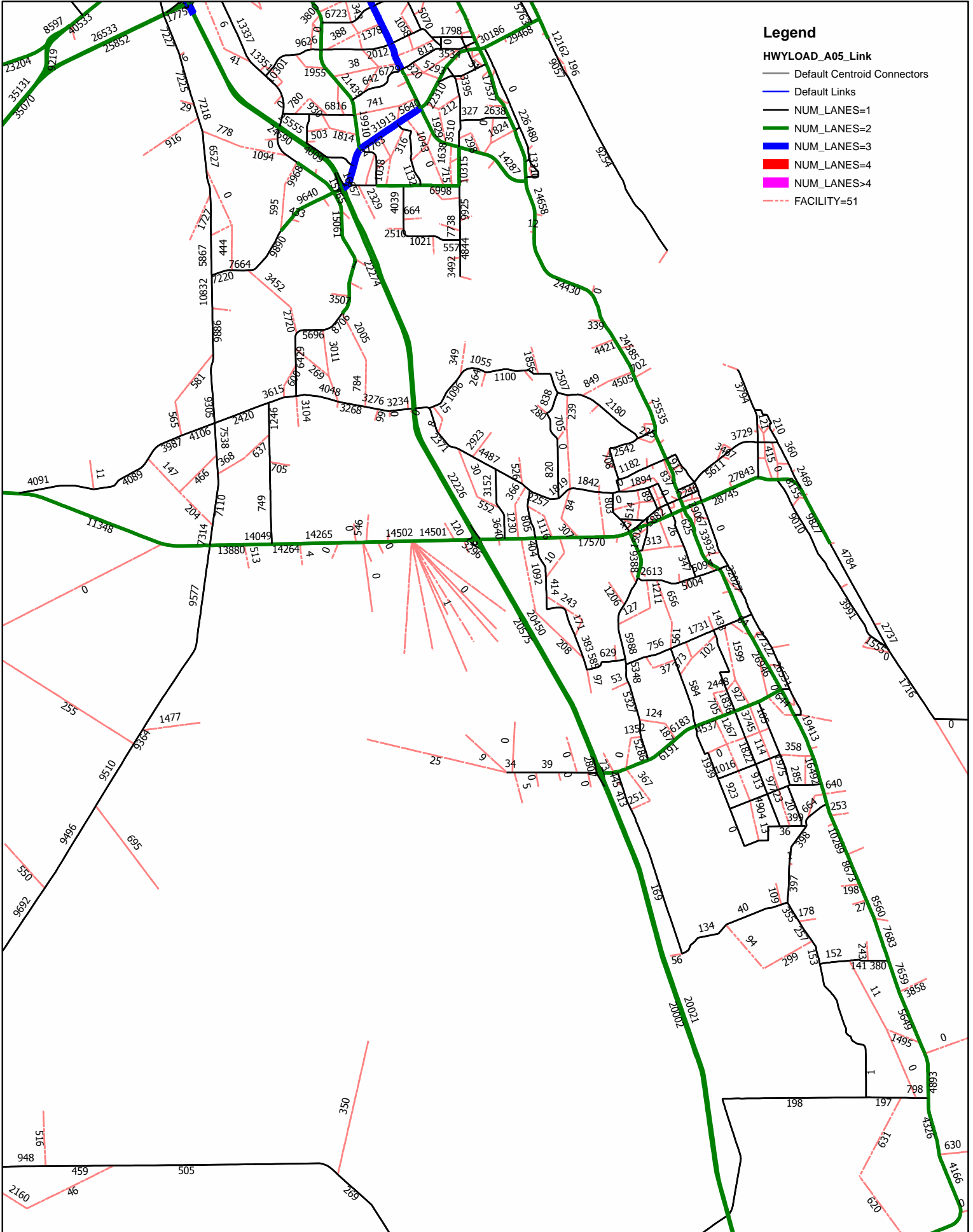


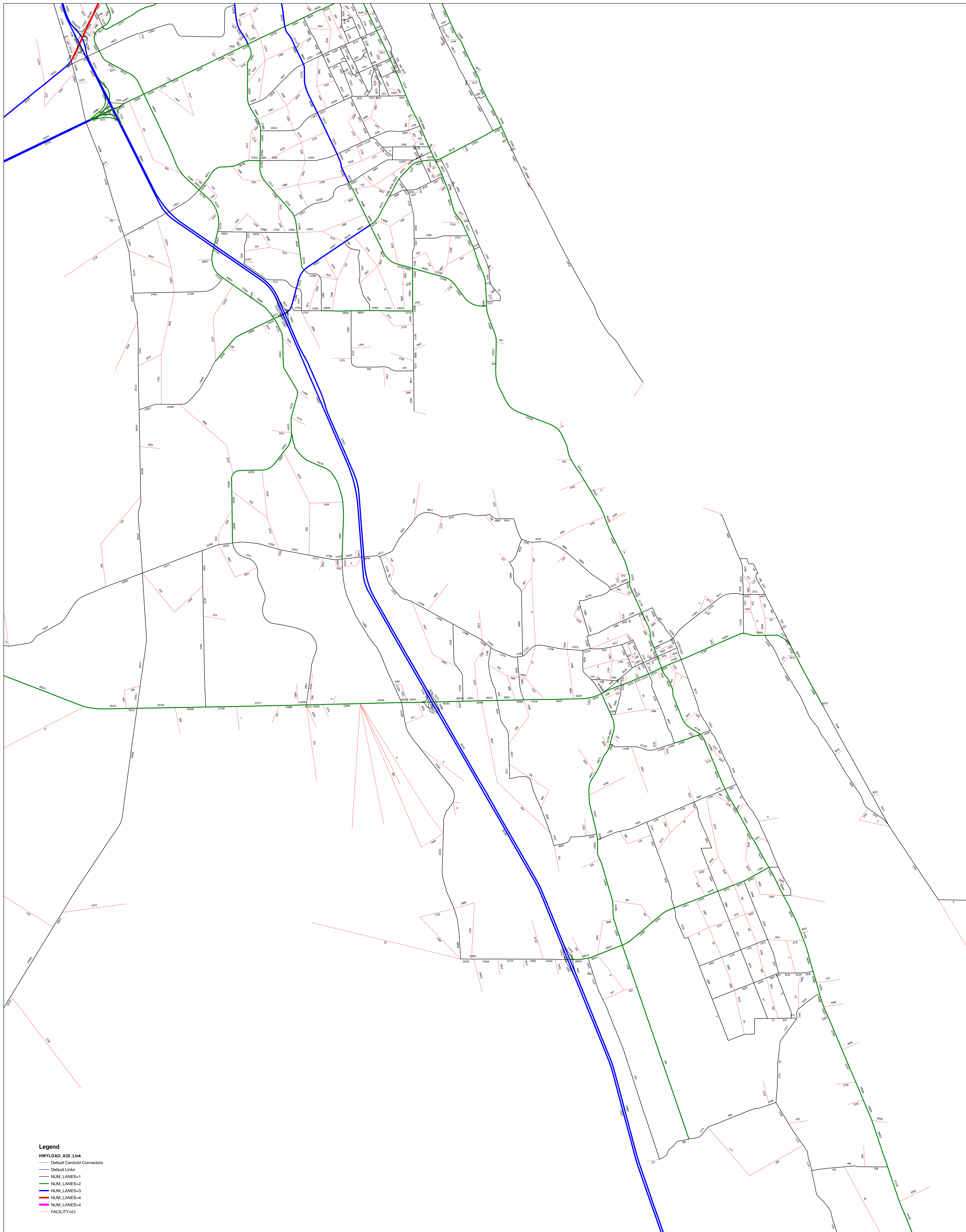
Appendix F
Travel Demand Model Plots and Socioeconomic
Data

Year 2010 CFRPM5.1 - Total Traffic Volumes (PSWADT) - Pioneer Trail IJR Model Validation Before



Year 2010 CFRPM5.1 - Total Traffic Volumes (PSWADT) - Pioneer Trail IJR Model Validation After





Legend

HWYLOAD_A35_Link

Default Centroid Connectors

Default Links

NUM_LANES=1

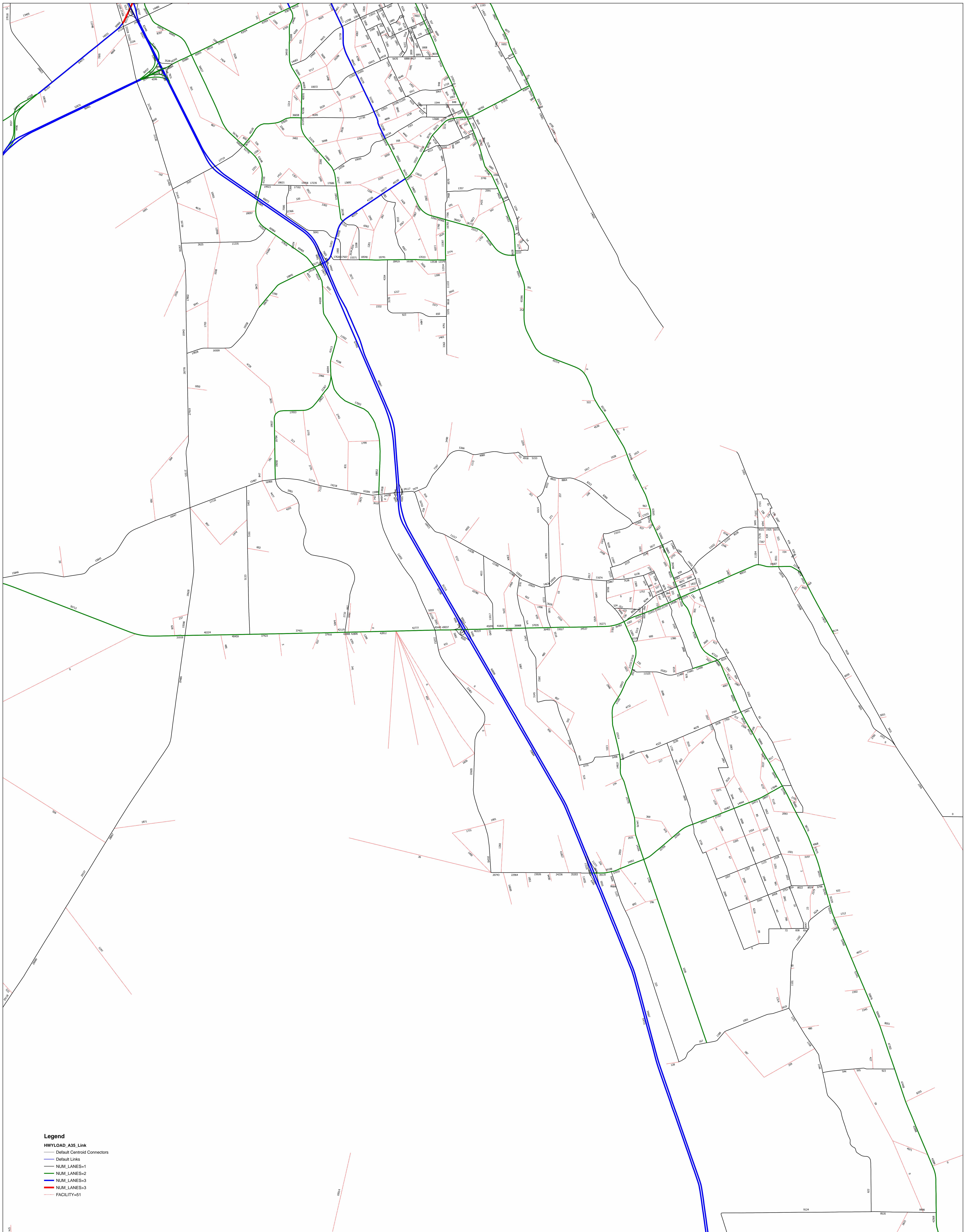
NUM_LANES=2

NUM_LANES=3

NUM_LANES=4

NUM_LANES=4

FACILITY=51



Appendix G
TMTTools Analysis

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Turnbull Bay Rd & Williams Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			3,140		1,490		2,860		EB	51%
Actual AADT:	2022			4,900		3,100		3,600		WB	49%
Actual AADT:	2032			6,900		4,800		4,500		NB	49%
Actual AADT:	2042			8,900		6,600		5,300		SB	51%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013				3,140		1,490		2,860
9	2022				4,900		3,100		3,600
NO. YEARS	2032				6,900		4,800		4,500
19	2042				8,900		6,600		5,300
NO. YEARS	29								

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			3,140			1,490			2,860		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,860	1,490	3,140	20	2,860	1,490	3,140	20	2,860	1,490	3,140	20	
38%	20%	42%	0%	65%	34%	52%	0%	48%	32%	68%	0%	
2022 2-WAY ADT	20			4,900			3,100			3,600		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
3,600	3,100	4,900	20	3,600	3,100	4,900	20	3,600	3,100	4,900	20	
31%	27%	42%	0%	54%	46%	58%	0%	42%	39%	61%	0%	
2032 2-WAY ADT	20			6,900			4,800			4,500		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
4,500	4,800	6,900	20	4,500	4,800	6,900	20	4,500	4,800	6,900	20	
28%	30%	43%	0%	48%	52%	60%	0%	39%	41%	59%	0%	
2042 2-WAY ADT	20			8,900			6,600			5,300		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
5,300	6,600	8,900	20	5,300	6,600	8,900	20	5,300	6,600	8,900	20	
25%	32%	43%	0%	44%	55%	63%	0%	37%	43%	57%	0%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	6			216			191			199			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
% TURNS:	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%	
P.M. 2-Way Pk Hr Vol:	6			216			191			199			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
% TURNS:	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2022	33%	33%	34%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2032	33%	33%	34%	1%	52%	48%	56%	1%	43%	41%	58%	1%
2042	32%	33%	35%	1%	51%	48%	56%	1%	43%	42%	57%	1%
P.M.												
2013	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2022	33%	33%	34%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2032	33%	33%	34%	1%	52%	48%	56%	1%	43%	41%	58%	1%
2042	32%	33%	35%	1%	51%	48%	56%	1%	43%	42%	57%	1%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Turnbull Bay Rd & Williams Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013		3,140	1,490	2,860
24 HR EST. AADT	2022		4,900	3,100	3,600
24 HR EST. AADT	2032		6,900	4,800	4,500
24 HR EST. AADT	2042		8,900	6,600	5,300

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	30.0%	30.0%	6.9%	6.9%	12.8%	12.8%	7.0%	7.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	46.8%	46.8%	52.8%	52.8%	50.7%	50.7%
2022	Approach D Factor	51.0%	49.0%	49.0%	51.0%	49.0%	51.0%	51.0%	49.0%
2032	Approach D Factor	51.0%	49.0%	49.0%	51.0%	49.0%	51.0%	51.0%	49.0%
2042	Approach D Factor	51.0%	49.0%	49.0%	51.0%	49.0%	51.0%	51.0%	49.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	1	1	1	2	54	47	57	2	44	41	61	2
2022	EST. TURNS	0	0	1	-1	115	99	99	(0)	40	44	124	(0)
2032	EST. TURNS	0	0	1	(1)	146	159	161	0	57	59	154	(0)
2042	EST. TURNS	0	0	1	-1	166	225	230	0	70	73	177	(0)

P.M. DESIGN HR. TURNS

2013	EST. TURNS	1	1	1	2	54	47	57	2	44	41	61	2
2022	EST. TURNS	0	0	0	-1	119	97	98	0	42	41	116	(0)
2032	EST. TURNS	0	0	1	(1)	152	155	160	0	60	55	143	(0)
2042	EST. TURNS	0	0	1	-1	172	219	227	0	73	67	164	(0)

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	101	119	220	101	89	190	101	99	200
2013 TURN SUMMARY	3	7	10	104	119	223	104	89	193	104	99	203
CONTROL LINK VOLUMES	1	-1	0	216	224	440	137	143	280	165	155	320
2022 TURN SUMMARY	1	-1	0	213	224	437	139	143	282	168	155	323
CONTROL LINK VOLUMES	1	-1	0	304	316	620	212	218	430	207	203	410
2032 TURN SUMMARY	1	-1	0	304	316	620	218	218	436	213	203	416
CONTROL LINK VOLUMES	1	-1	0	392	408	800	291	299	590	243	237	480
2042 TURN SUMMARY	1	-1	0	391	408	799	301	299	600	250	237	487
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	101	119	220	101	89	190	101	99	200
2013 TURN SUMMARY	3	7	10	104	119	223	104	89	193	104	99	203
CONTROL LINK VOLUMES	1	-1	0	225	215	440	142	138	280	159	161	320
2022 TURN SUMMARY	1	-1	0	216	215	431	140	138	278	157	161	318
CONTROL LINK VOLUMES	1	-1	0	317	303	620	220	210	430	198	212	410
2032 TURN SUMMARY	1	-1	0	307	303	610	219	210	429	197	212	409
CONTROL LINK VOLUMES	1	-1	0	409	391	800	303	287	590	234	246	480
2042 TURN SUMMARY	1	-1	0	391	391	782	300	287	587	231	246	477

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Turnbull Bay Rd & Shadow Pines Dr		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			2,100		170		2,200		EB	51%
Actual AADT:	2022			3,400		190		3,400		WB	49%
Actual AADT:	2032			4,800		220		4,800		NB	60%
Actual AADT:	2042			6,200		250		6,200		SB	40%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		20		2,100		170		2,200
NO. YEARS	2022		20		3,400		190		3,400
NO. YEARS	2032		20		4,800		220		4,800
NO. YEARS	2042		20		6,200		250		6,200

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			2,100			170			2,200		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,200	170	2,100	20	2,200	170	2,100	20	2,200	170	2,100	20	
49%	4%	47%	1%	92%	7%	49%	0%	51%	7%	92%	1%	
2022 2-WAY ADT	20			3,400			190			3,400		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
3,400	190	3,400	20	3,400	190	3,400	20	3,400	190	3,400	20	
49%	3%	49%	1%	94%	5%	50%	0%	50%	5%	94%	1%	
2032 2-WAY ADT	20			4,800			220			4,800		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
4,800	220	4,800	20	4,800	220	4,800	20	4,800	220	4,800	20	
49%	2%	49%	0%	95%	4%	50%	0%	50%	4%	95%	0%	
2042 2-WAY ADT	20			6,200			250			6,200		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
6,200	250	6,200	20	6,200	250	6,200	20	6,200	250	6,200	20	
49%	2%	49%	0%	96%	4%	50%	0%	50%	4%	96%	0%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	6			121			15			130			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				63	1	1	7	4	54			136	
% TURNS:	33%	33%	33%	2%	97%	2%	11%	11%	78%	7%	92%	2%	
P.M. 2-Way Pk Hr Vol:	6			193			17			198			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				96	3	2	4	6	90			207	
% TURNS:	33%	33%	33%	1%	96%	3%	29%	14%	57%	6%	93%	1%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	33%	33%	33%	2%	97%	2%	11%	11%	78%	7%	92%	2%
2022	35%	30%	35%	1%	97%	2%	15%	10%	75%	7%	92%	2%
2032	35%	29%	35%	1%	97%	2%	16%	10%	74%	6%	92%	2%
2042	36%	28%	36%	1%	97%	2%	18%	9%	73%	6%	92%	1%
P.M.												
2013	33%	33%	33%	1%	96%	3%	29%	14%	57%	6%	93%	1%
2022	35%	30%	35%	1%	96%	3%	31%	13%	56%	6%	93%	1%
2032	35%	29%	35%	1%	96%	3%	31%	13%	56%	6%	93%	1%
2042	36%	28%	36%	1%	96%	3%	32%	12%	56%	6%	93%	1%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: _____ DATE: 3/11/2015
 FM NO.: _____ NOTES: No Build Alternative
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Turnbull Bay Rd & Shadow Pines Dr
 PREPARED BY: GMB
 FILE: Version 1

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013		2,100	170	2,200
24 HR EST. AADT	2022		3,400	190	3,400
24 HR EST. AADT	2032		4,800	220	4,800
24 HR EST. AADT	2042		6,200	250	6,200

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	30.0%	30.0%	5.8%	9.2%	8.8%	10.0%	5.9%	9.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	53.7%	51.8%	60.0%	41.2%	45.4%	49.0%
2022	Approach D Factor	40.0%	60.0%	49.0%	51.0%	60.0%	40.0%	51.0%	49.0%
2032	Approach D Factor	40.0%	60.0%	49.0%	51.0%	60.0%	40.0%	51.0%	49.0%
2042	Approach D Factor	40.0%	60.0%	49.0%	51.0%	60.0%	40.0%	51.0%	49.0%

A.M. DESIGN HR. TURNS	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 EST. TURNS	1	2	1	2	64	2	1	2	6	7	53	2
2022 EST. TURNS	0	0	0	0	146	2	2	(0)	8	7	157	(0)
2032 EST. TURNS	0	0	0	(0)	200	2	3	0	9	6	215	(0)
2042 EST. TURNS	0	0	0	0	264	1	3	0	11	4	283	(0)

P.M. DESIGN HR. TURNS	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 EST. TURNS	1	1	1	2	98	4	2	2	4	8	88	3
2022 EST. TURNS	0	0	0	0	155	5	3	0	5	8	151	(0)
2032 EST. TURNS	0	0	0	(0)	213	4	3	0	5	7	206	(0)
2042 EST. TURNS	0	0	0	0	281	4	4	0	6	7	271	(0)

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	65	55	120	9	11	20	59	71	130
2013 TURN SUMMARY	3	7	10	68	55	123	9	11	20	63	71	134
CONTROL LINK VOLUMES	1	-1	0	150	160	310	10	10	20	156	154	310
2022 TURN SUMMARY	1	-1	0	148	160	308	10	10	20	164	154	318
CONTROL LINK VOLUMES	1	-1	0	212	218	430	12	8	20	220	210	430
2032 TURN SUMMARY	1	-1	0	202	218	420	12	8	20	221	210	431
CONTROL LINK VOLUMES	1	-1	0	273	287	560	14	6	20	285	275	560
2042 TURN SUMMARY	1	-1	0	265	287	552	14	6	20	287	275	562
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	100	90	190	7	13	20	97	103	200
2013 TURN SUMMARY	3	7	10	104	90	194	7	13	20	98	103	201
CONTROL LINK VOLUMES	1	-1	0	156	154	310	7	13	20	150	160	310
2022 TURN SUMMARY	1	-1	0	159	154	313	7	13	20	158	160	318
CONTROL LINK VOLUMES	1	-1	0	220	210	430	8	12	20	212	218	430
2032 TURN SUMMARY	1	-1	0	217	210	427	8	12	20	213	218	431
CONTROL LINK VOLUMES	1	-1	0	285	275	560	9	11	20	273	287	560
2042 TURN SUMMARY	1	-1	0	285	275	560	9	11	20	277	287	564

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Yorktowne Blvd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT				
Actual AADT:	2013	6,780	36,000	6,100	38,000			EB	58%		
Actual AADT:	2022	7,800	40,000	7,000	41,000			WB	42%		
Actual AADT:	2032	8,900	45,000	8,000	45,000			NB	50%		
Actual AADT:	2042	10,000	50,000	9,000	49,000			SB	50%		
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	2013		6,780		36,000		6,100		38,000
NO. YEARS	2022		7,800		40,000		7,000		41,000
NO. YEARS	2032		8,900		45,000		8,000		45,000
NO. YEARS	2042		10,000		50,000		9,000		49,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	6,780			36,000			6,100			38,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
38,000	6,100	36,000	6,780	38,000	6,100	36,000	6,780	38,000	6,100	36,000	6,780	
47%	8%	45%	13%	75%	12%	45%	8%	47%	12%	74%	14%	
2022 2-WAY ADT	7,800			40,000			7,000			41,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
41,000	7,000	40,000	7,800	41,000	7,000	40,000	7,800	41,000	7,000	40,000	7,800	
47%	8%	45%	14%	73%	13%	45%	9%	46%	13%	73%	14%	
2032 2-WAY ADT	8,900			45,000			8,000			45,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
45,000	8,000	45,000	8,900	45,000	8,000	45,000	8,900	45,000	8,000	45,000	8,900	
46%	8%	46%	14%	73%	13%	46%	9%	46%	13%	73%	14%	
2042 2-WAY ADT	10,000			50,000			9,000			49,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
49,000	9,000	50,000	10,000	49,000	9,000	50,000	10,000	49,000	9,000	50,000	10,000	
45%	8%	46%	15%	72%	13%	46%	9%	45%	13%	72%	14%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	584			3,218			552			3,418			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
123	30	230	104	1,227	19	37	48	414	4	1,601	49		3,886
% TURNS:	32%	8%	60%	8%	91%	1%	7%	10%	83%	0%	97%	3%	
P.M. 2-Way Pk Hr Vol:	613			3,402			580			3,367			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
59	62	217	137	1,672	90	65	43	313	7	1,221	95		3,981
% TURNS:	17%	18%	64%	7%	88%	5%	15%	10%	74%	1%	92%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	32%	8%	60%	8%	91%	1%	7%	10%	83%	0%	97%	3%
2022	34%	8%	59%	8%	89%	3%	11%	10%	79%	1%	94%	4%
2032	34%	8%	58%	9%	89%	3%	12%	10%	78%	2%	94%	4%
2042	34%	8%	58%	9%	88%	3%	14%	10%	77%	2%	93%	5%
P.M.												
2013	17%	18%	64%	7%	88%	5%	15%	10%	74%	1%	92%	7%
2022	20%	17%	62%	8%	87%	6%	18%	10%	72%	2%	90%	8%
2032	21%	17%	62%	8%	86%	6%	19%	10%	71%	2%	90%	8%
2042	22%	17%	61%	8%	85%	6%	21%	10%	69%	3%	89%	8%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Yorktowne Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	6,780	36,000	6,100	38,000
24 HR EST. AADT	2022	7,800	40,000	7,000	41,000
24 HR EST. AADT	2032	8,900	45,000	8,000	45,000
24 HR EST. AADT	2042	10,000	50,000	9,000	49,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	8.6%	9.0%	8.9%	9.5%	9.0%	9.5%	9.0%	8.9%
2022	Standard K Factor	11.0%	11.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.0%
2032	Standard K Factor	11.0%	11.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.0%
2042	Standard K Factor	11.0%	11.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.0%
2013	APPROACH D FACTOR	65.6%	55.1%	42.0%	55.8%	90.4%	72.6%	48.4%	39.3%
2022	Approach D Factor	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	58.0%	42.0%
2032	Approach D Factor	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	58.0%	42.0%
2042	Approach D Factor	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	123	29	231	102	1229	18	37	47	414	4	1,602	48
2022	EST. TURNS	142	22	265	211	1158	143	42	55	475	126	1,848	154
2032	EST. TURNS	161	27	302	247	1,271	173	49	63	543	146	2,048	167
2042	EST. TURNS	182	28	340	282	1384	204	55	71	611	170	2,237	184
2013	EST. TURNS	59	62	216	135	1674	90	65	42	314	7	1,220	94
2022	EST. TURNS	68	111	250	192	1756	190	75	49	359	60	1,262	190
2032	EST. TURNS	77	128	285	230	1,927	223	85	56	410	71	1,395	203
2042	EST. TURNS	87	143	320	270	2097	257	96	63	462	88	1,523	216

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:		383	197	580	1350	1870	3220	499	51	550	1654	1766	3420
CONTROL LINK VOLUMES		383	197	580	1349	1870	3219	499	51	550	1654	1766	3420
2013	TURN SUMMARY	429	431	860	1512	2088	3600	385	385	770	2140	1550	3690
CONTROL LINK VOLUMES		429	420	849	1513	2155	3668	572	292	864	2129	1775	3904
2022	TURN SUMMARY	490	490	980	1701	2349	4050	440	440	880	2349	1701	4050
CONTROL LINK VOLUMES		490	477	967	1691	2399	4090	655	345	1000	2361	1975	4335
2032	TURN SUMMARY	550	550	1100	1890	2610	4500	495	495	990	2558	1852	4410
CONTROL LINK VOLUMES		550	538	1088	1871	2632	4503	737	402	1139	2592	2177	4769
2042	TURN SUMMARY												
DESIGN HOUR P.M.:		338	272	610	1899	1501	3400	421	159	580	1323	2047	3370
CONTROL LINK VOLUMES		338	272	610	1899	1501	3400	421	159	580	1321	2047	3368
2013	TURN SUMMARY	429	431	860	2088	1512	3600	385	385	770	1550	2140	3690
CONTROL LINK VOLUMES		429	431	860	2137	1587	3725	483	361	844	1513	2183	3696
2022	TURN SUMMARY	490	490	980	2349	1701	4050	440	440	880	1701	2349	4050
CONTROL LINK VOLUMES		490	489	978	2380	1765	4145	551	422	973	1670	2414	4084
2032	TURN SUMMARY	550	550	1100	2610	1890	4500	495	495	990	1852	2558	4410
CONTROL LINK VOLUMES		550	549	1099	2624	1939	4563	621	488	1109	1827	2646	4473
2042	TURN SUMMARY												

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Williamson Blvd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	16,480		35,490		18,900		16,900		EB	57%
Actual AADT:	2022	29,000		43,000		27,000		19,000		WB	43%
Actual AADT:	2032	44,000		52,000		36,000		21,000		NB	64%
Actual AADT:	2042	58,000		60,000		45,000		23,000		SB	36%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		16,480		35,490		18,900		16,900
NO. YEARS	2022		29,000		43,000		27,000		19,000
NO. YEARS	2032		44,000		52,000		36,000		21,000
NO. YEARS	2042		58,000		60,000		45,000		23,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	16,480			35,490			18,900			16,900		
RIGHT												
THRU	16,900	35,490	16,480	16,900	18,900	35,490	16,480	16,900	18,900	35,490	16,480	16,480
LEFT	24%	50%	32%	32%	36%	52%	24%	25%	27%	50%	23%	23%
2022 2-WAY ADT	29,000			43,000			27,000			19,000		
RIGHT												
THRU	19,000	43,000	29,000	19,000	27,000	43,000	29,000	19,000	27,000	43,000	29,000	29,000
LEFT	21%	30%	48%	39%	25%	36%	47%	32%	21%	27%	43%	29%
2032 2-WAY ADT	44,000			52,000			36,000			21,000		
RIGHT												
THRU	21,000	52,000	44,000	21,000	36,000	52,000	44,000	21,000	36,000	52,000	44,000	44,000
LEFT	19%	33%	48%	44%	21%	36%	44%	38%	18%	27%	39%	33%
2042 2-WAY ADT	58,000			60,000			45,000			23,000		
RIGHT												
THRU	23,000	60,000	58,000	23,000	45,000	60,000	58,000	23,000	45,000	60,000	58,000	58,000
LEFT	18%	35%	47%	46%	18%	36%	43%	41%	16%	28%	37%	36%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	841			2,531			1,679			1,229			
RIGHT													
THRU	16	122	189	209	397	356	758	277	88	78	622	28	3,140
LEFT													
% TURNS:	5%	37%	58%	22%	41%	37%	67%	25%	8%	11%	85%	4%	
P.M. 2-Way Pk Hr Vol:	1,438			3,110			1,795			1,571			
RIGHT													
THRU	39	414	471	283	736	634	401	183	68	95	585	48	3,957
LEFT													
% TURNS:	4%	45%	51%	17%	45%	38%	62%	28%	10%	13%	80%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	5%	37%	58%	22%	41%	37%	67%	25%	8%	11%	85%	4%
2022	7%	37%	57%	23%	40%	37%	65%	25%	9%	12%	81%	6%
2032	7%	37%	57%	24%	39%	37%	65%	26%	9%	13%	80%	8%
2042	7%	37%	56%	26%	37%	37%	63%	27%	9%	14%	77%	9%
P.M.												
2013	4%	45%	51%	17%	45%	38%	62%	28%	10%	13%	80%	7%
2022	6%	43%	51%	19%	43%	38%	60%	28%	11%	14%	77%	9%
2032	6%	43%	51%	20%	42%	38%	59%	29%	11%	15%	75%	10%
2042	7%	43%	50%	22%	40%	38%	58%	30%	11%	15%	73%	11%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Williamson Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	16,480	35,490	18,900	16,900
24 HR EST. AADT	2022	29,000	43,000	27,000	19,000
24 HR EST. AADT	2032	44,000	52,000	36,000	21,000
24 HR EST. AADT	2042	58,000	60,000	45,000	23,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	5.1%	8.7%	7.1%	8.8%	8.9%	9.5%	7.3%	9.3%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	10.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	10.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	10.0%
2013	APPROACH D FACTOR	38.9%	64.3%	38.0%	53.2%	66.9%	36.3%	59.2%	46.3%
2022	Approach D Factor	36.0%	64.0%	43.0%	57.0%	64.0%	36.0%	57.0%	43.0%
2032	Approach D Factor	36.0%	64.0%	43.0%	57.0%	64.0%	36.0%	57.0%	43.0%
2042	Approach D Factor	36.0%	64.0%	43.0%	57.0%	64.0%	36.0%	57.0%	43.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	16	122	189	208	398	356	758	277	88	78	622	28
2022	EST. TURNS	68	329	605	784	555	444	811	739	111	102	791	146
2032	EST. TURNS	106	539	903	1,120	575	507	950	1179	132	120	815	235
2042	EST. TURNS	145	746	1,164	1404	589	572	1091	1607	157	140	823	331

P.M. DESIGN HR. TURNS

2013	EST. TURNS	39	416	471	284	735	637	401	184	68	96	585	48
2022	EST. TURNS	111	732	725	511	872	702	400	322	100	120	539	106
2032	EST. TURNS	167	1,137	1,026	758	913	801	452	507	117	136	534	160
2042	EST. TURNS	228	1,532	1,282	976	946	904	510	687	137	156	530	215

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	327	513	840	962	1568	2530	1123	557	1680	728	502	1230
2013 TURN SUMMARY	327	513	840	962	1568	2530	1123	557	1680	728	502	1230
CONTROL LINK VOLUMES	940	1670	2610	1664	2206	3870	1555	875	2430	975	735	1710
2022 TURN SUMMARY	1002	1670	2672	1784	2206	3990	1661	875	2536	1039	735	1774
CONTROL LINK VOLUMES	1426	2534	3960	2012	2668	4680	2074	1166	3240	1077	813	1890
2032 TURN SUMMARY	1548	2534	4082	2202	2668	4870	2262	1166	3428	1169	813	1982
CONTROL LINK VOLUMES	1879	3341	5220	2322	3078	5400	2592	1458	4050	1180	890	2070
2042 TURN SUMMARY	2055	3341	5396	2564	3078	5642	2855	1458	4313	1293	890	2183
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	924	516	1440	1653	1457	3110	652	1148	1800	728	842	1570
2013 TURN SUMMARY	925	516	1441	1656	1457	3113	653	1148	1801	729	842	1571
CONTROL LINK VOLUMES	1670	940	2610	2206	1664	3870	875	1555	2430	817	1083	1900
2022 TURN SUMMARY	1568	940	2508	2085	1664	3749	823	1555	2378	766	1083	1849
CONTROL LINK VOLUMES	2534	1426	3960	2668	2012	4680	1166	2074	3240	903	1197	2100
2032 TURN SUMMARY	2330	1426	3756	2473	2012	4485	1076	2074	3150	830	1197	2027
CONTROL LINK VOLUMES	3341	1879	5220	3078	2322	5400	1458	2592	4050	989	1311	2300
2042 TURN SUMMARY	3042	1879	4921	2826	2322	5148	1335	2592	3927	901	1311	2212

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Taylor Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			38,000		9,000		45,500		EB	58%
Actual AADT:	2022			41,000		9,900		52,000		WB	42%
Actual AADT:	2032			45,000		11,000		59,000		NB	34%
Actual AADT:	2042			49,000		12,000		66,000		SB	66%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013				38,000		9,000		45,500
9	2022				41,000		9,900		52,000
19	2032				45,000		11,000		59,000
29	2042				49,000		12,000		66,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			38,000			9,000			45,500		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
45,500	9,000	38,000	20	45,500	9,000	38,000	20	45,500	9,000	38,000	20	
49%	10%	41%	0%	83%	17%	45%	0%	54%	19%	81%	0%	
2022 2-WAY ADT	20			41,000			9,900			52,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
52,000	9,900	41,000	20	52,000	9,900	41,000	20	52,000	9,900	41,000	20	
51%	10%	40%	0%	84%	16%	44%	0%	56%	19%	81%	0%	
2032 2-WAY ADT	20			45,000			11,000			59,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
59,000	11,000	45,000	20	59,000	11,000	45,000	20	59,000	11,000	45,000	20	
51%	10%	39%	0%	84%	16%	43%	0%	57%	20%	80%	0%	
2042 2-WAY ADT	20			49,000			12,000			66,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
66,000	12,000	49,000	20	66,000	12,000	49,000	20	66,000	12,000	49,000	20	
52%	9%	39%	0%	85%	15%	43%	0%	57%	20%	80%	0%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	6			3,420			522			3,540			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				1,742	22	178			319	1,476			3,744
% TURNS:	33%	33%	33%	0%	99%	1%	99%	1%	1%	18%	82%	0%	
P.M. 2-Way Pk Hr Vol:	6			3,768			811			4,209			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				1,989	55	129			624	1,593			4,397
% TURNS:	33%	33%	33%	0%	97%	3%	98%	1%	1%	28%	72%	0%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	33%	33%	33%	0%	99%	1%	99%	1%	1%	18%	82%	0%
2022	35%	31%	34%	0%	97%	3%	93%	1%	6%	18%	82%	0%
2032	36%	30%	34%	0%	97%	3%	92%	0%	8%	18%	82%	0%
2042	36%	29%	34%	0%	96%	4%	90%	0%	10%	18%	82%	0%
P.M.												
2013	33%	33%	33%	0%	97%	3%	98%	1%	1%	28%	72%	0%
2022	35%	31%	34%	0%	96%	4%	93%	1%	6%	27%	73%	0%
2032	36%	30%	34%	0%	96%	4%	92%	1%	8%	27%	73%	0%
2042	36%	29%	34%	0%	95%	5%	89%	1%	10%	27%	73%	0%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Taylor Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	20	38,000	9,000	45,500
24 HR EST. AADT	2022	20	41,000	9,900	52,000
24 HR EST. AADT	2032	20	45,000	11,000	59,000
24 HR EST. AADT	2042	20	49,000	12,000	66,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	30.0%	30.0%	9.0%	9.9%	5.8%	9.0%	7.8%	9.3%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	51.6%	54.3%	34.5%	16.2%	50.7%	52.7%
2022	Approach D Factor	66.0%	34.0%	42.0%	58.0%	34.0%	34.0%	58.0%	42.0%
2032	Approach D Factor	66.0%	34.0%	42.0%	58.0%	34.0%	34.0%	58.0%	42.0%
2042	Approach D Factor	66.0%	34.0%	42.0%	58.0%	34.0%	34.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	1	1	1	2	1742	22	177	2	1	317	1,477	2
2022	EST. TURNS	1	0	0	0	1904	24	293	(0)	1	569	1,908	(0)
2032	EST. TURNS	1	0	0	(0)	2,133	26	330	0	1	635	2,116	(0)
2042	EST. TURNS	1	0	0	0	2348	28	369	0	1	693	2,335	(1)

P.M. DESIGN HR. TURNS

2013	EST. TURNS	1	1	1	2	1990	55	128	2	1	623	1,596	2
2022	EST. TURNS	1	0	0	0	2653	59	302	-1	1	713	1,821	(0)
2032	EST. TURNS	1	0	0	(0)	2,984	65	340	-1	1	809	2,066	(0)
2042	EST. TURNS	1	0	0	0	3300	71	380	-1	1	905	2,311	(0)

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	1765	1655	3420	180	340	520	1796	1744	3540
2013 TURN SUMMARY	3	7	10	1766	1655	3421	180	340	520	1797	1744	3541
CONTROL LINK VOLUMES	1	-1	0	1550	2140	3690	303	587	890	2714	1966	4680
2022 TURN SUMMARY	1	-1	0	1927	2202	4129	294	593	887	2477	1905	4382
CONTROL LINK VOLUMES	1	-1	0	1701	2349	4050	337	653	990	3080	2230	5310
2032 TURN SUMMARY	1	-1	0	2158	2446	4604	330	661	991	2750	2134	4884
CONTROL LINK VOLUMES	1	-1	0	1852	2558	4410	367	713	1080	3445	2495	5940
2042 TURN SUMMARY	1	-1	0	2376	2704	5080	369	721	1090	3028	2350	5377
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	2045	1725	3770	131	679	810	2218	1992	4210
2013 TURN SUMMARY	3	7	10	2047	1725	3772	131	679	810	2221	1992	4213
CONTROL LINK VOLUMES	1	-1	0	2140	1550	3690	303	587	890	1966	2714	4680
2022 TURN SUMMARY	1	-1	0	2712	2123	4834	302	772	1074	2534	2655	5188
CONTROL LINK VOLUMES	1	-1	0	2349	1701	4050	337	653	990	2230	3080	5310
2032 TURN SUMMARY	1	-1	0	3049	2406	5455	340	874	1214	2875	2986	5861
CONTROL LINK VOLUMES	1	-1	0	2558	1852	4410	367	713	1080	2495	3445	5940
2042 TURN SUMMARY	1	-1	0	3371	2691	6062	380	976	1357	3216	3302	6518

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Summer Trees Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT	AAADT	AAADT		
Actual AADT:	2013	4,600		16,900		1,600		14,010		EB	58%
Actual AADT:	2022	5,300		19,000		1,800		16,000		WB	42%
Actual AADT:	2032	6,000		21,000		2,100		17,000		NB	55%
Actual AADT:	2042	6,800		23,000		2,400		19,000		SB	45%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	2013		4,600		16,900		1,600		14,010
NO. YEARS	2022		5,300		19,000		1,800		16,000
NO. YEARS	2032		6,000		21,000		2,100		17,000
NO. YEARS	2042		6,800		23,000		2,400		19,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	4,600			16,900			1,600			14,010		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
14,010	1,600	16,900	4,600	14,010	1,600	16,900	4,600	14,010	1,600	16,900	4,600	
43%	5%	52%	23%	69%	8%	48%	13%	39%	7%	73%	20%	
2022 2-WAY ADT	5,300			19,000			1,800			16,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
16,000	1,800	19,000	5,300	16,000	1,800	19,000	5,300	16,000	1,800	19,000	5,300	
43%	5%	52%	23%	69%	8%	47%	13%	40%	7%	73%	20%	
2032 2-WAY ADT	6,000			21,000			2,100			17,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
17,000	2,100	21,000	6,000	17,000	2,100	21,000	6,000	17,000	2,100	21,000	6,000	
42%	5%	52%	24%	68%	8%	48%	14%	39%	7%	72%	21%	
2042 2-WAY ADT	6,800			23,000			2,400			19,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
19,000	2,400	23,000	6,800	19,000	2,400	23,000	6,800	19,000	2,400	23,000	6,800	
43%	5%	52%	24%	67%	9%	47%	14%	39%	7%	71%	21%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	252			1,229			105			1,312			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	62	5	45	14	468	19	26	28	21	6	657	98	1,449
% TURNS:	55%	4%	40%	3%	93%	4%	35%	37%	28%	1%	86%	13%	
P.M. 2-Way Pk Hr Vol:	417			1,571			148			1,698			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	177	38	58	39	760	44	23	17	11	15	647	88	1,917
% TURNS:	65%	14%	21%	5%	90%	5%	45%	33%	22%	2%	86%	12%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	55%	4%	40%	3%	93%	4%	35%	37%	28%	1%	86%	13%
2022	54%	5%	41%	5%	91%	4%	36%	35%	29%	1%	85%	14%
2032	54%	5%	42%	5%	90%	4%	36%	34%	29%	2%	85%	14%
2042	53%	5%	42%	6%	89%	5%	37%	33%	30%	2%	84%	14%
P.M.												
2013	65%	14%	21%	5%	90%	5%	45%	33%	22%	2%	86%	12%
2022	63%	13%	24%	6%	88%	5%	45%	31%	23%	2%	85%	13%
2032	62%	13%	25%	7%	87%	6%	45%	31%	24%	3%	85%	13%
2042	61%	13%	26%	8%	86%	6%	45%	30%	24%	3%	84%	13%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Summer Trees Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	4,600	16,900	1,600	14,010
24 HR EST. AADT	2022	5,300	19,000	1,800	16,000
24 HR EST. AADT	2032	6,000	21,000	2,100	17,000
24 HR EST. AADT	2042	6,800	23,000	2,400	19,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	5.5%	9.1%	7.3%	9.3%	6.6%	9.3%	9.4%	12.1%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%
2013	APPROACH D FACTOR	44.4%	65.5%	40.8%	53.7%	71.4%	34.5%	58.0%	44.2%
2022	Approach D Factor	45.0%	65.0%	42.0%	58.0%	55.0%	35.0%	58.0%	42.0%
2032	Approach D Factor	45.0%	65.0%	42.0%	58.0%	55.0%	35.0%	58.0%	42.0%
2042	Approach D Factor	45.0%	65.0%	42.0%	58.0%	55.0%	35.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	62	6	45	14	466	22	26	28	21	7	658	97
2022	EST. TURNS	60	11	157	97	535	52	43	42	10	8	792	127
2032	EST. TURNS	61	12	187	123	570	64	54	47	11	10	855	128
2042	EST. TURNS	75	15	202	139	628	72	61	51	15	14	938	145

P.M. DESIGN HR. TURNS

2013	EST. TURNS	177	39	58	40	762	45	23	17	11	15	646	90
2022	EST. TURNS	210	36	58	51	888	46	22	17	16	22	638	103
2032	EST. TURNS	221	43	77	65	946	57	28	19	17	24	689	105
2042	EST. TURNS	256	48	84	72	1044	64	31	20	22	32	755	120

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		112	138	250	501	729	1230	75	35	110	761	549	1310
2013	TURN SUMMARY	112	138	250	502	729	1231	75	35	110	762	549	1311
CONTROL LINK VOLUMES		215	265	480	718	992	1710	89	71	160	835	605	1440
2022	TURN SUMMARY	228	265	493	684	992	1676	95	71	166	927	605	1532
CONTROL LINK VOLUMES		243	297	540	794	1096	1890	104	86	190	887	643	1530
2032	TURN SUMMARY	260	297	557	757	1096	1853	112	86	198	993	643	1636
CONTROL LINK VOLUMES		275	335	610	869	1201	2070	119	101	220	992	718	1710
2042	TURN SUMMARY	292	335	627	839	1201	2040	127	101	228	1097	718	1815
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		273	147	420	843	727	1570	51	99	150	750	950	1700
2013	TURN SUMMARY	274	147	421	846	727	1573	51	99	150	752	950	1702
CONTROL LINK VOLUMES		310	170	480	992	718	1710	57	103	160	806	1114	1920
2022	TURN SUMMARY	305	170	475	984	718	1702	55	103	158	762	1114	1876
CONTROL LINK VOLUMES		351	189	540	1096	794	1890	66	124	190	857	1183	2040
2032	TURN SUMMARY	340	189	529	1068	794	1862	63	124	187	818	1183	2001
CONTROL LINK VOLUMES		398	212	610	1201	869	2070	76	144	220	958	1322	2280
2042	TURN SUMMARY	388	212	600	1180	869	2049	73	144	217	906	1322	2228

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and I-95 Ramps		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT	EB	WB	NB	SB
Actual AADT:	2013	18,600		45,500		7,400		35,490		55%	
Actual AADT:	2022	22,800		52,000		10,600		43,000		45%	
Actual AADT:	2032	27,800		59,000		14,400		52,000		60%	
Actual AADT:	2042	33,200		66,000		18,200		60,000		40%	
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	2013		18,600		45,500		7,400		35,490
NO. YEARS	2022		22,800		52,000		10,600		43,000
NO. YEARS	2032		27,800		59,000		14,400		52,000
NO. YEARS	2042		33,200		66,000		18,200		60,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT
2013 2-WAY ADT	18,600			45,500			7,400			35,490		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT
35,490	7,400	45,500	18,600	35,490	7,400	45,500	18,600	35,490	7,400	45,500	18,600	35,490
40%	8%	51%	30%	58%	12%	46%	19%	36%	10%	64%	26%	41%
2022 2-WAY ADT	22,800			52,000			10,600			43,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT
43,000	10,600	52,000	22,800	43,000	10,600	52,000	22,800	43,000	10,600	52,000	22,800	43,000
41%	10%	49%	30%	56%	14%	44%	19%	37%	12%	61%	27%	41%
2032 2-WAY ADT	27,800			59,000			14,400			52,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT
52,000	14,400	59,000	27,800	52,000	14,400	59,000	27,800	52,000	14,400	59,000	27,800	52,000
41%	11%	47%	30%	55%	15%	43%	20%	37%	14%	58%	27%	41%
2042 2-WAY ADT	33,200			66,000			18,200			60,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT
60,000	18,200	66,000	33,200	60,000	18,200	66,000	33,200	60,000	18,200	66,000	33,200	60,000
42%	13%	46%	30%	54%	16%	41%	21%	38%	16%	56%	28%	42%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	
A.M. 2-Way Pk Hr Vol:	1,720			3,537			576			2,531			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	
	126	403	829	753	160	257	83	74	1,135	360			4,182
% TURNS:	24%	0%	76%	48%	43%	9%	75%	0%	24%	5%	72%	23%	
P.M. 2-Way Pk Hr Vol:	1,318			3,936			690			3,170			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	
	223	479	419	1,325	245	242	105	96	1,226	195			4,557
% TURNS:	32%	0%	68%	21%	67%	12%	70%	0%	30%	6%	81%	13%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	24%	0%	76%	48%	43%	9%	75%	0%	24%	5%	72%	23%
2022	25%	1%	73%	46%	45%	10%	72%	2%	26%	5%	71%	23%
2032	26%	2%	72%	45%	45%	10%	71%	3%	26%	6%	71%	24%
2042	27%	2%	71%	45%	45%	10%	70%	4%	27%	7%	70%	24%
P.M.												
2013	32%	0%	68%	21%	67%	12%	70%	0%	30%	6%	81%	13%
2022	33%	1%	66%	22%	66%	12%	67%	2%	31%	7%	79%	14%
2032	33%	2%	66%	22%	65%	13%	66%	3%	31%	7%	78%	15%
2042	33%	2%	64%	23%	64%	13%	65%	4%	31%	8%	77%	15%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and I-95 Ramps
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	18,600	45,500	7,400	35,490
24 HR EST. AADT	2022	22,800	52,000	10,600	43,000
24 HR EST. AADT	2032	27,800	59,000	14,400	52,000
24 HR EST. AADT	2042	33,200	66,000	18,200	60,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	9.2%	7.1%	7.8%	8.7%	7.8%	9.3%	7.1%	8.9%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	30.8%	53.3%	49.3%	50.5%	59.2%	50.4%	62.0%	47.9%
2022	Approach D Factor	45.0%	55.0%	45.0%	55.0%	55.0%	45.0%	55.0%	45.0%
2032	Approach D Factor	45.0%	55.0%	45.0%	55.0%	55.0%	45.0%	55.0%	45.0%
2042	Approach D Factor	45.0%	55.0%	45.0%	55.0%	55.0%	45.0%	55.0%	45.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	126	1	404	829	752	163	258	1	83	75	1,136	360
2022	EST. TURNS	317	13	621	697	1242	246	350	9	182	166	1,603	421
2032	EST. TURNS	436	26	692	779	1,391	303	436	16	279	258	1,793	579
2042	EST. TURNS	545	46	784	887	1518	353	524	30	368	340	1,959	728

P.M. DESIGN HR. TURNS

2013	EST. TURNS	223	1	480	421	1325	245	243	1	105	96	1,228	195
2022	EST. TURNS	414	17	656	594	1565	347	252	12	149	158	1,198	315
2032	EST. TURNS	572	34	729	664	1,772	434	313	22	230	248	1,347	437
2042	EST. TURNS	715	62	824	756	1951	512	374	40	304	329	1,475	551

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	530	1190	1720	1742	1798	3540	341	239	580	1569	961	2530
2013 TURN SUMMARY	531	1190	1721	1744	1798	3542	342	239	581	1571	961	2532
CONTROL LINK VOLUMES	923	1127	2050	2106	2574	4680	525	425	950	2129	1741	3870
2022 TURN SUMMARY	951	1127	2078	2185	2574	4759	541	425	966	2190	1741	3931
CONTROL LINK VOLUMES	1126	1374	2500	2390	2920	5310	713	587	1300	2574	2106	4680
2032 TURN SUMMARY	1154	1374	2528	2473	2920	5393	731	587	1318	2629	2106	4735
CONTROL LINK VOLUMES	1345	1645	2990	2673	3267	5940	901	739	1640	2970	2430	5400
2042 TURN SUMMARY	1375	1645	3020	2757	3267	6024	921	739	1660	3027	2430	5457
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	703	617	1320	1989	1951	3940	348	342	690	1517	1653	3170
2013 TURN SUMMARY	704	617	1321	1991	1951	3942	348	342	690	1519	1653	3172
CONTROL LINK VOLUMES	1129	921	2050	2574	2106	4680	429	521	950	1742	2128	3870
2022 TURN SUMMARY	1087	921	2008	2505	2106	4611	413	521	934	1671	2128	3799
CONTROL LINK VOLUMES	1376	1124	2500	2921	2389	5310	583	717	1300	2106	2574	4680
2032 TURN SUMMARY	1335	1124	2459	2871	2389	5260	566	717	1283	2033	2574	4607
CONTROL LINK VOLUMES	1643	1347	2990	3267	2673	5940	737	903	1640	2430	2970	5400
2042 TURN SUMMARY	1601	1347	2948	3218	2673	5891	718	903	1621	2355	2970	5325

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Clyde Morris Blvd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT	EB	WB	NB	SB
Actual AADT:	2013	19,000	28,500	9,000	36,000			58%			
Actual AADT:	2022	21,000	32,000	10,000	40,000			42%			
Actual AADT:	2032	23,000	37,000	12,000	45,000			65%			
Actual AADT:	2042	25,000	41,000	13,000	50,000			35%			
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	2013		19,000		28,500		9,000		36,000
NO. YEARS	2022		21,000		32,000		10,000		40,000
NO. YEARS	2032		23,000		37,000		12,000		45,000
NO. YEARS	2042		25,000		41,000		13,000		50,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	19,000			28,500			9,000			36,000		
RIGHT	36,000	9,000	28,500	19,000	36,000	9,000	28,500	19,000	36,000	9,000	28,500	19,000
49%	12%	39%	30%	56%	14%	34%	23%	43%	16%	50%	34%	
2022 2-WAY ADT	21,000			32,000			10,000			40,000		
RIGHT	40,000	10,000	32,000	21,000	40,000	10,000	32,000	21,000	40,000	10,000	32,000	21,000
49%	12%	39%	30%	56%	14%	34%	23%	43%	16%	51%	33%	
2032 2-WAY ADT	23,000			37,000			12,000			45,000		
RIGHT	45,000	12,000	37,000	23,000	45,000	12,000	37,000	23,000	45,000	12,000	37,000	23,000
48%	13%	39%	29%	56%	15%	35%	22%	43%	17%	51%	32%	
2042 2-WAY ADT	25,000			41,000			13,000			50,000		
RIGHT	50,000	13,000	41,000	25,000	50,000	13,000	41,000	25,000	50,000	13,000	41,000	25,000
48%	13%	39%	28%	57%	15%	35%	22%	43%	16%	52%	32%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	1,282			2,857			1,041			3,218			
RIGHT	170	189	169	173	910	71	71	308	270	132	1,463	273	4,199
% TURNS:	32%	36%	32%	15%	79%	6%	11%	47%	42%	7%	78%	15%	
P.M. 2-Way Pk Hr Vol:	1,770			2,970			1,030			3,392			
RIGHT	322	325	283	235	1,296	7	56	283	281	78	1,093	322	4,581
% TURNS:	35%	35%	30%	15%	84%	0%	9%	46%	45%	5%	73%	22%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	32%	36%	32%	15%	79%	6%	11%	47%	42%	7%	78%	15%
2022	34%	33%	33%	16%	77%	7%	13%	45%	42%	8%	76%	16%
2032	34%	33%	33%	17%	76%	7%	14%	44%	42%	8%	75%	17%
2042	35%	32%	33%	17%	75%	8%	15%	43%	42%	9%	74%	17%
P.M.												
2013	35%	35%	30%	15%	84%	0%	9%	46%	45%	5%	73%	22%
2022	36%	33%	31%	17%	81%	2%	12%	43%	45%	6%	71%	23%
2032	36%	32%	32%	17%	81%	2%	12%	43%	45%	7%	70%	23%
2042	37%	31%	32%	17%	80%	3%	13%	42%	45%	7%	70%	23%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Clyde Morris Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	19,000	28,500	9,000	36,000
24 HR EST. AADT	2022	21,000	32,000	10,000	40,000
24 HR EST. AADT	2032	23,000	37,000	12,000	45,000
24 HR EST. AADT	2042	25,000	41,000	13,000	50,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	6.7%	9.3%	10.0%	10.4%	11.6%	11.4%	8.9%	9.4%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.4%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.4%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.4%
2013	APPROACH D FACTOR	41.2%	52.5%	40.4%	51.8%	62.3%	60.2%	58.0%	44.0%
2022	Approach D Factor	35.0%	52.0%	42.0%	58.0%	65.0%	48.0%	58.0%	42.0%
2032	Approach D Factor	35.0%	52.0%	42.0%	58.0%	65.0%	48.0%	58.0%	42.0%
2042	Approach D Factor	35.0%	52.0%	42.0%	58.0%	65.0%	48.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	170	189	169	173	911	71	71	307	271	132	1,465	272
2022	EST. TURNS	293	190	198	262	938	56	63	394	281	139	1,410	572
2032	EST. TURNS	299	215	225	299	1,065	76	88	455	336	171	1,618	592
2042	EST. TURNS	335	221	248	329	1179	86	105	471	376	193	1,787	662

P.M. DESIGN HR. TURNS

2013	EST. TURNS	321	325	283	235	1295	7	56	283	281	78	1,093	322
2022	EST. TURNS	425	382	199	237	1469	32	62	314	312	158	971	454
2032	EST. TURNS	437	435	227	272	1,674	53	75	377	375	198	1,116	470
2042	EST. TURNS	498	446	251	299	1849	70	81	409	406	228	1,233	521

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	528	752	1280	1154	1706	2860	649	391	1040	1868	1352	3220
2013 TURN SUMMARY	528	752	1280	1154	1706	2860	649	391	1040	1869	1352	3221
CONTROL LINK VOLUMES	662	1228	1890	1210	1670	2880	715	385	1100	2088	1512	3600
2022 TURN SUMMARY	680	1228	1908	1256	1670	2926	737	385	1122	2121	1512	3633
CONTROL LINK VOLUMES	725	1345	2070	1399	1931	3330	858	462	1320	2349	1701	4050
2032 TURN SUMMARY	740	1345	2085	1440	1931	3371	879	462	1341	2380	1701	4081
CONTROL LINK VOLUMES	788	1462	2250	1550	2140	3690	930	500	1430	2610	1890	4500
2042 TURN SUMMARY	804	1462	2266	1594	2140	3734	952	500	1452	2643	1890	4533
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	930	840	1770	1538	1432	2970	620	410	1030	1493	1897	3390
2013 TURN SUMMARY	930	840	1770	1537	1432	2969	620	410	1030	1492	1897	3389
CONTROL LINK VOLUMES	983	907	1890	1670	1210	2880	528	572	1100	1579	2181	3760
2022 TURN SUMMARY	1006	1004	2010	1738	1232	2970	688	572	1260	1583	2206	3789
CONTROL LINK VOLUMES	1076	994	2070	1931	1399	3330	634	686	1320	1777	2453	4230
2032 TURN SUMMARY	1098	1119	2217	1999	1418	3417	827	686	1513	1784	2485	4269
CONTROL LINK VOLUMES	1170	1080	2250	2140	1550	3690	686	744	1430	1974	2726	4700
2042 TURN SUMMARY	1195	1230	2425	2218	1565	3783	896	744	1640	1982	2753	4735

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Williamson Blvd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	4,900		18,300				20,500		EB	39%
Actual AADT:	2022	5,700		29,000				27,000		WB	61%
Actual AADT:	2032	6,700		41,000		19,000		34,000		NB	32%
Actual AADT:	2042	12,000		53,000		22,000		41,000		SB	68%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		4,900		18,300				20,500
NO. YEARS	2022		5,700		29,000				27,000
NO. YEARS	2032		6,700		41,000		19,000		34,000
NO. YEARS	2042		12,000		53,000		22,000		41,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	4,900			18,300			20			20,500		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
20,500	20	18,300	4,900	20,500	20	18,300	4,900	20,500	20	18,300	4,900	
53%	0%	47%	19%	81%	0%	42%	11%	47%	0%	79%	21%	
2022 2-WAY ADT	5,700			29,000			20			27,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
27,000	20	29,000	5,700	27,000	20	29,000	5,700	27,000	20	29,000	5,700	
48%	0%	52%	17%	83%	0%	47%	9%	44%	0%	84%	16%	
2032 2-WAY ADT	6,700			41,000			19,000			34,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
34,000	19,000	41,000	6,700	34,000	19,000	41,000	6,700	34,000	19,000	41,000	6,700	
36%	20%	44%	11%	57%	32%	50%	8%	42%	28%	61%	10%	
2042 2-WAY ADT	12,000			53,000			22,000			41,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
41,000	22,000	53,000	12,000	41,000	22,000	53,000	12,000	41,000	22,000	53,000	12,000	
35%	19%	46%	16%	55%	29%	50%	11%	39%	25%	61%	14%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	172			1,670			51			1,575			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	28	88	22	827	46					686	32		1,734
% TURNS:	24%	1%	75%	2%	92%	5%	33%	33%	33%	0%	95%	4%	
P.M. 2-Way Pk Hr Vol:	439			2,093			68			1,844			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	63	292	20	943	63					774	62		2,222
% TURNS:	18%	0%	82%	2%	92%	6%	33%	33%	33%	0%	92%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	24%	1%	75%	2%	92%	5%	33%	33%	33%	0%	95%	4%
2022	26%	1%	73%	4%	91%	5%	35%	31%	34%	0%	94%	6%
2032	25%	3%	71%	4%	88%	8%	35%	30%	34%	4%	91%	5%
2042	26%	4%	70%	5%	86%	9%	36%	30%	34%	4%	90%	6%
P.M.												
2013	18%	0%	82%	2%	92%	6%	33%	33%	33%	0%	92%	7%
2022	21%	0%	79%	3%	91%	6%	35%	31%	34%	0%	92%	8%
2032	20%	3%	77%	3%	88%	9%	35%	30%	34%	4%	89%	8%
2042	21%	3%	76%	4%	86%	10%	36%	30%	34%	4%	87%	8%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Williamson Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	4,900	18,300		20,500
24 HR EST. AADT	2022	5,700	29,000		27,000
24 HR EST. AADT	2032	6,700	41,000	19,000	34,000
24 HR EST. AADT	2042	12,000	53,000	22,000	41,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	3.5%	9.0%	9.1%	11.4%	255.0%	340.0%	7.7%	9.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	68.0%	81.1%	53.6%	49.0%	5.9%	4.4%	45.7%	45.4%
2022	Approach D Factor	68.0%	81.0%	61.0%	39.0%	64.0%	36.0%	39.0%	61.0%
2032	Approach D Factor	68.0%	81.0%	61.0%	39.0%	64.0%	36.0%	39.0%	61.0%
2042	Approach D Factor	36.0%	64.0%	61.0%	39.0%	64.0%	36.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	28	1	88	21	832	45	1	1	1	1	686	31
2022	EST. TURNS	93	(0)	227	85	1389	-1	0	0	0	(0)	791	76
2032	EST. TURNS	82	36	221	24	1,402	460	379	144	383	120	839	21
2042	EST. TURNS	67	29	265	175	1892	576	450	427	292	108	1,145	89
2013	EST. TURNS	63	1	291	20	939	65	1	1	1	1	772	63
2022	EST. TURNS	71	(0)	307	23	877	-1	0	0	0	(0)	1,284	71
2032	EST. TURNS	76	74	364	9	864	653	327	69	254	366	1,561	34
2042	EST. TURNS	93	94	568	62	1135	811	367	200	211	362	1,975	127

LINK VOLUME CHECK

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:												
CONTROL LINK VOLUMES	117	53	170	895	775	1670	3	47	50	719	861	1580
2013 TURN SUMMARY	117	53	170	898	775	1673	3	47	50	718	861	1579
CONTROL LINK VOLUMES	349	161	510	1592	1018	2610	1	-1	0	948	1482	2430
2022 TURN SUMMARY	320	161	481	1473	1018	2491	1	-1	0	866	1482	2348
CONTROL LINK VOLUMES	410	190	600	2251	1439	3690	1094	616	1710	1193	1867	3060
2032 TURN SUMMARY	339	190	529	1886	1439	3325	907	616	1523	980	1867	2847
CONTROL LINK VOLUMES	389	691	1080	2910	1860	4770	1267	713	1980	1439	2251	3690
2042 TURN SUMMARY	361	691	1052	2642	1860	4502	1170	713	1883	1342	2251	3593
DESIGN HOUR P.M.:												
CONTROL LINK VOLUMES	356	84	440	1026	1064	2090	3	67	70	837	1003	1840
2013 TURN SUMMARY	355	84	439	1024	1064	2088	3	67	70	835	1003	1838
CONTROL LINK VOLUMES	416	94	510	1018	1592	2610	1	-1	0	1482	948	2430
2022 TURN SUMMARY	378	94	472	899	1592	2491	1	-1	0	1355	948	2303
CONTROL LINK VOLUMES	488	112	600	1439	2251	3690	616	1094	1710	1867	1193	3060
2032 TURN SUMMARY	513	112	625	1527	2251	3778	649	1094	1743	1961	1193	3154
CONTROL LINK VOLUMES	691	389	1080	1860	2910	4770	713	1267	1980	2251	1439	3690
2042 TURN SUMMARY	755	389	1144	2008	2910	4918	777	1267	2044	2465	1439	3904

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Tomoka Farms Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	5,260		15,700		9,000		12,200		EB	39%
Actual AADT:	2022	7,700		23,000		14,000		17,000		WB	61%
Actual AADT:	2032	10,000		32,000		20,000		23,000		NB	55%
Actual AADT:	2042	13,000		40,000		26,000		29,000		SB	45%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		5,260		15,700		9,000		12,200
9	2022		7,700		23,000		14,000		17,000
19	2032		10,000		32,000		20,000		23,000
29	2042		13,000		40,000		26,000		29,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	5,260			15,700			9,000			12,200		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
12,200	9,000	15,700	5,260	12,200	9,000	15,700	5,260	12,200	9,000	15,700	5,260	
33%	24%	43%	20%	46%	34%	47%	16%	37%	30%	52%	18%	
2022 2-WAY ADT	7,700			23,000			14,000			17,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
17,000	14,000	23,000	7,700	17,000	14,000	23,000	7,700	17,000	14,000	23,000	7,700	
31%	26%	43%	20%	44%	36%	48%	16%	36%	31%	51%	17%	
2032 2-WAY ADT	10,000			32,000			20,000			23,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
23,000	20,000	32,000	10,000	23,000	20,000	32,000	10,000	23,000	20,000	32,000	10,000	
31%	27%	43%	19%	43%	38%	49%	15%	35%	32%	52%	16%	
2042 2-WAY ADT	13,000			40,000			26,000			29,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
29,000	26,000	40,000	13,000	29,000	26,000	40,000	13,000	29,000	26,000	40,000	13,000	
31%	27%	42%	19%	43%	38%	49%	16%	35%	33%	51%	16%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	478			1,202			829			881			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	16	145	20	18	433	155	223	253	38	15	353	26	1,695
% TURNS:	9%	80%	11%	3%	71%	26%	43%	49%	7%	4%	90%	7%	
P.M. 2-Way Pk Hr Vol:	507			1,459			948			1,028			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	22	247	18	27	409	256	240	155	30	20	509	38	1,971
% TURNS:	8%	86%	6%	4%	59%	37%	56%	36%	7%	4%	90%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	9%	80%	11%	3%	71%	26%	43%	49%	7%	4%	90%	7%
2022	11%	75%	14%	5%	69%	27%	44%	46%	10%	7%	86%	8%
2032	12%	73%	15%	5%	68%	27%	44%	45%	11%	7%	85%	8%
2042	12%	71%	16%	6%	67%	28%	44%	44%	12%	9%	83%	8%
P.M.												
2013	8%	86%	6%	4%	59%	37%	56%	36%	7%	4%	90%	7%
2022	10%	80%	10%	6%	58%	37%	56%	34%	10%	6%	86%	8%
2032	11%	79%	11%	6%	57%	37%	56%	34%	11%	7%	85%	8%
2042	11%	76%	12%	6%	56%	37%	55%	33%	12%	8%	83%	8%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Tomoka Farms Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	5,260	15,700	9,000	12,200
24 HR EST. AADT	2022	7,700	23,000	14,000	17,000
24 HR EST. AADT	2032	10,000	32,000	20,000	23,000
24 HR EST. AADT	2042	13,000	40,000	26,000	29,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	9.1%	9.6%	7.7%	9.3%	9.2%	10.5%	7.2%	8.4%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	37.9%	56.6%	50.4%	47.4%	62.0%	44.8%	44.7%	55.2%
2022	Approach D Factor	45.0%	55.0%	61.0%	39.0%	55.0%	45.0%	39.0%	61.0%
2032	Approach D Factor	45.0%	55.0%	61.0%	39.0%	55.0%	45.0%	39.0%	61.0%
2042	Approach D Factor	45.0%	55.0%	61.0%	39.0%	55.0%	45.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	16	145	20	18	432	156	222	255	38	15	353	26
2022	EST. TURNS	34	219	40	50	828	310	288	287	72	38	478	41
2032	EST. TURNS	42	283	53	68	1,111	467	432	377	109	60	638	50
2042	EST. TURNS	60	362	72	95	1369	598	551	480	162	93	781	68

P.M. DESIGN HR. TURNS

2013	EST. TURNS	22	248	18	27	411	257	240	157	30	20	510	39
2022	EST. TURNS	41	321	43	45	497	314	352	194	59	59	868	70
2032	EST. TURNS	51	420	59	61	666	474	524	257	89	96	1,174	88
2042	EST. TURNS	72	534	84	83	816	604	672	326	130	149	1,440	117

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:		181	299	480	606	594	1200	514	316	830	394	486	880
CONTROL LINK VOLUMES		181	299	480	606	594	1200	514	316	830	394	486	880
2013	TURN SUMMARY	181	299	480	606	594	1200	514	316	830	394	486	880
CONTROL LINK VOLUMES		312	378	690	1263	807	2070	693	567	1260	597	933	1530
2022	TURN SUMMARY	293	378	671	1188	807	1995	647	567	1214	557	933	1490
CONTROL LINK VOLUMES		405	495	900	1757	1123	2880	990	810	1800	807	1263	2070
2032	TURN SUMMARY	379	495	874	1646	1123	2769	918	810	1728	748	1263	2011
CONTROL LINK VOLUMES		527	643	1170	2196	1404	3600	1287	1053	2340	1018	1592	2610
2042	TURN SUMMARY	494	643	1137	2063	1404	3467	1193	1053	2246	942	1592	2534
DESIGN HOUR P.M.:		287	223	510	692	768	1460	425	525	950	567	463	1030
CONTROL LINK VOLUMES		288	223	511	695	768	1463	427	525	952	569	463	1032
2013	TURN SUMMARY	288	223	511	695	768	1463	427	525	952	569	463	1032
CONTROL LINK VOLUMES		381	309	690	807	1263	2070	567	693	1260	933	597	1530
2022	TURN SUMMARY	404	309	713	856	1263	2119	605	693	1298	997	597	1594
CONTROL LINK VOLUMES		495	405	900	1123	1757	2880	810	990	1800	1263	807	2070
2032	TURN SUMMARY	530	405	935	1201	1757	2958	870	990	1860	1358	807	2165
CONTROL LINK VOLUMES		644	526	1170	1404	2196	3600	1053	1287	2340	1592	1018	2610
2042	TURN SUMMARY	690	526	1216	1503	2196	3699	1128	1287	2415	1706	1018	2724

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and I-95 Ramps		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT	EB	WB	NB	SB
Actual AADT:	2013	2,760		30,000				30,000			39%
Actual AADT:	2022	5,000		33,000				35,000			61%
Actual AADT:	2032	7,500		37,000				41,000			43%
Actual AADT:	2042	10,000		40,000				47,000			57%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	2013		2,760		30,000				30,000
NO. YEARS	2022		5,000		33,000				35,000
NO. YEARS	2032		7,500		37,000				41,000
NO. YEARS	2042		10,000		40,000				47,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	2,760			30,000			20			30,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
30,000	20	30,000	2,760	30,000	20	30,000	2,760	30,000	20	30,000	2,760	
50%	0%	50%	8%	92%	0%	48%	4%	48%	0%	92%	8%	
2022 2-WAY ADT	5,000			33,000			20			35,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
35,000	20	33,000	5,000	35,000	20	33,000	5,000	35,000	20	33,000	5,000	
51%	0%	49%	12%	87%	0%	45%	7%	48%	0%	87%	13%	
2032 2-WAY ADT	7,500			37,000			20			41,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
41,000	20	37,000	7,500	41,000	20	37,000	7,500	41,000	20	37,000	7,500	
53%	0%	47%	15%	85%	0%	43%	9%	48%	0%	83%	17%	
2042 2-WAY ADT	10,000			40,000			20			47,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
47,000	20	40,000	10,000	47,000	20	40,000	10,000	47,000	20	40,000	10,000	
54%	0%	46%	18%	82%	0%	41%	10%	48%	0%	80%	20%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	321			1,910			6			2,049			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL	
	167	63	27	1,052						766	62	2,143	
% TURNS:	72%	0%	27%	3%	97%	0%	33%	33%	33%	0%	92%	7%	
P.M. 2-Way Pk Hr Vol:	366			2,438			6			2,564			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL	
	100	54	65	1,030						1,287	145	2,687	
% TURNS:	65%	1%	35%	6%	94%	0%	33%	33%	33%	0%	90%	10%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	72%	0%	27%	3%	97%	0%	33%	33%	33%	0%	92%	7%
2022	70%	0%	29%	3%	96%	0%	35%	31%	35%	0%	92%	8%
2032	70%	0%	30%	4%	96%	0%	35%	30%	35%	0%	91%	9%
2042	69%	0%	30%	5%	95%	0%	35%	29%	36%	0%	90%	10%
P.M.												
2013	65%	1%	35%	6%	94%	0%	33%	33%	33%	0%	90%	10%
2022	63%	1%	36%	7%	93%	0%	35%	31%	35%	0%	90%	10%
2032	63%	1%	36%	7%	93%	0%	35%	30%	35%	0%	89%	11%
2042	63%	1%	37%	8%	92%	0%	35%	29%	36%	0%	88%	12%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and I-95 Ramps
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	2,760	30,000		30,000
24 HR EST. AADT	2022	5,000	33,000		35,000
24 HR EST. AADT	2032	7,500	37,000		41,000
24 HR EST. AADT	2042	10,000	40,000		47,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	11.6%	13.3%	6.4%	8.1%	30.0%	30.0%	6.8%	8.5%
2022	Standard K Factor	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	72.0%	42.3%	56.5%	45.0%	50.0%	50.0%	40.5%	55.9%
2022	Approach D Factor	57.0%	43.0%	61.0%	39.0%	43.0%	57.0%	39.0%	61.0%
2032	Approach D Factor	57.0%	43.0%	61.0%	39.0%	43.0%	57.0%	39.0%	61.0%
2042	Approach D Factor	57.0%	43.0%	61.0%	39.0%	43.0%	57.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	167	2	63	27	1053	2	1	1	1	2	766	61
2022	EST. TURNS	203	(0)	80	82	1718	0	0	0	0	(0)	1,078	133
2032	EST. TURNS	321	(0)	106	117	1,929	(0)	0	0	0	(0)	1,192	205
2042	EST. TURNS	460	(0)	119	140	2120	0	0	0	0	(0)	1,285	290

P.M. DESIGN HR. TURNS

2013	EST. TURNS	99	2	54	67	1027	2	1	1	1	2	1,289	147
2022	EST. TURNS	126	(0)	70	69	1101	0	0	0	0	(0)	1,742	187
2032	EST. TURNS	201	(0)	94	95	1,238	(0)	0	0	0	(0)	1,937	295
2042	EST. TURNS	291	(0)	106	106	1359	0	0	0	0	(0)	2,090	407

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	231	89	320	1080	830	1910	3	7	10	829	1221	2050
2013 TURN SUMMARY	231	89	320	1082	830	1912	3	7	10	830	1221	2051
CONTROL LINK VOLUMES	285	215	500	1812	1158	2970	1	-1	0	1229	1921	3150
2022 TURN SUMMARY	282	215	497	1799	1158	2957	1	-1	0	1210	1921	3131
CONTROL LINK VOLUMES	428	322	750	2031	1299	3330	1	-1	0	1439	2251	3690
2032 TURN SUMMARY	427	322	749	2045	1299	3344	1	-1	0	1397	2251	3648
CONTROL LINK VOLUMES	570	430	1000	2196	1404	3600	1	-1	0	1650	2580	4230
2042 TURN SUMMARY	578	430	1008	2259	1404	3663	1	-1	0	1574	2580	4154
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	155	215	370	1096	1344	2440	3	7	10	1433	1127	2560
2013 TURN SUMMARY	155	215	370	1096	1344	2440	3	7	10	1438	1127	2565
CONTROL LINK VOLUMES	194	256	450	1158	1812	2970	1	-1	0	1922	1228	3150
2022 TURN SUMMARY	196	256	452	1170	1812	2982	1	-1	0	1928	1228	3156
CONTROL LINK VOLUMES	290	390	680	1299	2031	3330	1	-1	0	2251	1439	3690
2032 TURN SUMMARY	295	390	685	1333	2031	3364	1	-1	0	2231	1439	3670
CONTROL LINK VOLUMES	387	513	900	1404	2196	3600	1	-1	0	2580	1650	4230
2042 TURN SUMMARY	397	513	910	1464	2196	3660	1	-1	0	2496	1650	4146

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and I-95 Ramps		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	10,800		30,000		6,800		18,300		EB	39%
Actual AADT:	2022	16,200		35,000		11,200		29,000		WB	61%
Actual AADT:	2032	22,600		41,000		16,400		41,000		NB	54%
Actual AADT:	2042	29,000		47,000		21,000		53,000		SB	46%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		10,800		30,000		6,800		18,300
9	2022		16,200		35,000		11,200		29,000
19	2032		22,600		41,000		16,400		41,000
29	2042		29,000		47,000		21,000		53,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	10,800			30,000			6,800			18,300		
RIGHT	18,300	6,800	30,000	10,800	18,300	6,800	30,000	10,800	18,300	6,800	30,000	10,800
33%	12%	54%	30%	51%	19%	51%	18%	31%	14%	63%	23%	
2022 2-WAY ADT	16,200			35,000			11,200			29,000		
RIGHT	29,000	11,200	35,000	16,200	29,000	11,200	35,000	16,200	29,000	11,200	35,000	16,200
39%	15%	47%	29%	51%	20%	44%	20%	36%	18%	56%	26%	
2032 2-WAY ADT	22,600			41,000			16,400			41,000		
RIGHT	41,000	16,400	41,000	22,600	41,000	16,400	41,000	22,600	16,400	41,000	22,600	16,400
42%	17%	42%	28%	51%	21%	39%	22%	39%	21%	51%	28%	
2042 2-WAY ADT	29,000			47,000			21,000			53,000		
RIGHT	53,000	21,000	47,000	29,000	53,000	21,000	47,000	29,000	53,000	21,000	47,000	29,000
44%	17%	44%	28%	51%	20%	36%	22%	41%	22%	48%	30%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	949			2,047			525			1,715			
RIGHT	64	1	207	555	577	87	52	1	254	130	569	121	2,618
% TURNS:	24%	0%	76%	46%	47%	7%	17%	0%	83%	16%	69%	15%	
P.M. 2-Way Pk Hr Vol:	1,131			2,562			614			2,155			
RIGHT	158	1	545	342	697	91	96	1	171	254	791	84	3,231
% TURNS:	22%	0%	77%	30%	62%	8%	36%	0%	64%	22%	70%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	24%	0%	76%	46%	47%	7%	17%	0%	83%	16%	69%	15%
2022	25%	2%	73%	44%	48%	8%	20%	2%	78%	16%	68%	16%
2032	26%	2%	72%	43%	48%	9%	20%	3%	77%	16%	67%	16%
2042	27%	3%	70%	43%	48%	9%	20%	4%	76%	17%	66%	17%
P.M.												
2013	22%	0%	77%	30%	62%	8%	36%	0%	64%	22%	70%	7%
2022	24%	2%	74%	30%	61%	9%	37%	2%	61%	22%	69%	9%
2032	25%	2%	73%	30%	60%	10%	36%	3%	61%	22%	68%	10%
2042	26%	3%	71%	30%	60%	10%	36%	4%	60%	22%	66%	11%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and I-95 Ramps
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	10,800	30,000	6,800	18,300
24 HR EST. AADT	2022	16,200	35,000	11,200	29,000
24 HR EST. AADT	2032	22,600	41,000	16,400	41,000
24 HR EST. AADT	2042	29,000	47,000	21,000	53,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	8.8%	10.5%	6.8%	8.5%	7.7%	9.0%	9.4%	11.8%
2022	Standard K Factor	9.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	28.7%	62.2%	59.6%	44.1%	58.5%	43.6%	47.8%	52.4%
2022	Approach D Factor	46.0%	54.0%	61.0%	39.0%	54.0%	46.0%	39.0%	61.0%
2032	Approach D Factor	46.0%	54.0%	61.0%	39.0%	54.0%	46.0%	39.0%	61.0%
2042	Approach D Factor	46.0%	54.0%	61.0%	39.0%	54.0%	46.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	64	1	208	556	580	89	52	1	255	133	571	121
2022	EST. TURNS	173	17	469	660	993	229	99	9	425	220	660	120
2032	EST. TURNS	350	37	550	818	1,211	254	99	20	689	391	790	256
2042	EST. TURNS	549	63	614	952	1444	272	105	36	917	534	931	421

P.M. DESIGN HR. TURNS

2013	EST. TURNS	159	1	543	341	700	89	95	1	172	252	792	84
2022	EST. TURNS	176	18	696	528	585	135	197	18	257	393	1,029	199
2032	EST. TURNS	337	39	828	612	679	141	212	38	424	621	1,211	389
2042	EST. TURNS	511	67	940	670	791	151	225	64	558	802	1,415	600

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	272	678	950	1219	831	2050	307	223	530	820	900	1720
2013 TURN SUMMARY	273	678	951	1225	831	2056	309	223	532	824	900	1724
CONTROL LINK VOLUMES	671	789	1460	1922	1228	3150	544	466	1010	1018	1592	2610
2022 TURN SUMMARY	659	789	1448	1882	1228	3110	533	466	999	1000	1592	2592
CONTROL LINK VOLUMES	936	1094	2030	2251	1439	3690	797	683	1480	1439	2251	3690
2032 TURN SUMMARY	938	1094	2032	2284	1439	3723	809	683	1492	1437	2251	3688
CONTROL LINK VOLUMES	1201	1409	2610	2580	1650	4230	1021	869	1890	1860	2910	4770
2042 TURN SUMMARY	1226	1409	2635	2668	1650	4318	1058	869	1927	1885	2910	4795
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	704	426	1130	1130	1430	2560	268	342	610	1129	1031	2160
2013 TURN SUMMARY	703	426	1129	1130	1430	2560	268	342	610	1128	1031	2159
CONTROL LINK VOLUMES	875	745	1620	1229	1921	3150	464	546	1010	1592	1018	2610
2022 TURN SUMMARY	890	745	1635	1248	1921	3169	471	546	1017	1620	1018	2638
CONTROL LINK VOLUMES	1220	1040	2260	1439	2251	3690	679	801	1480	2251	1439	3690
2032 TURN SUMMARY	1204	1040	2244	1432	2251	3683	673	801	1474	2221	1439	3660
CONTROL LINK VOLUMES	1566	1334	2900	1650	2580	4230	869	1021	1890	2910	1860	4770
2042 TURN SUMMARY	1519	1334	2853	1612	2580	4192	847	1021	1868	2817	1860	4677

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Airport Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	2,770		20,500				15,700		EB	39%
Actual AADT:	2022	3,700		27,000				23,000		WB	61%
Actual AADT:	2032	4,700		34,000				32,000		NB	52%
Actual AADT:	2042	5,700		41,000				40,000		SB	48%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	9		2,770		20,500				15,700
NO. YEARS	19		3,700		27,000				23,000
NO. YEARS	29		4,700		34,000				32,000
			5,700		41,000				40,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	2,770			20,500			20			15,700		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
15,700	20	20,500	2,770	15,700	20	20,500	2,770	15,700	20	20,500	2,770	
43%	0%	57%	15%	85%	0%	53%	7%	40%	0%	88%	12%	
2022 2-WAY ADT	3,700			27,000			20			23,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
23,000	20	27,000	3,700	23,000	20	27,000	3,700	23,000	20	27,000	3,700	
46%	0%	54%	14%	86%	0%	50%	7%	43%	0%	88%	12%	
2032 2-WAY ADT	4,700			34,000			20			32,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
32,000	20	34,000	4,700	32,000	20	34,000	4,700	32,000	20	34,000	4,700	
48%	0%	51%	13%	87%	0%	48%	7%	45%	0%	88%	12%	
2042 2-WAY ADT	5,700			41,000			20			40,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
40,000	20	41,000	5,700	40,000	20	41,000	5,700	40,000	20	41,000	5,700	
49%	0%	51%	12%	87%	0%	47%	7%	46%	0%	88%	12%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		400
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	
P.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		400
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS		SB			WB			NB			EB		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	LEFT	
A.M.	2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
	2022	27%	45%	28%	24%	54%	23%	28%	46%	27%	23%	54%	24%
	2032	28%	44%	28%	23%	55%	22%	28%	45%	28%	22%	55%	23%
	2042	29%	42%	29%	23%	56%	21%	29%	43%	29%	21%	56%	23%
P.M.	2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
	2022	27%	45%	28%	24%	54%	23%	28%	46%	27%	23%	54%	24%
	2032	28%	44%	28%	23%	55%	22%	28%	45%	28%	22%	55%	23%
	2042	29%	42%	29%	23%	56%	21%	29%	43%	29%	21%	56%	23%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Airport Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	2,770	20,500		15,700
24 HR EST. AADT	2022	3,700	27,000		23,000
24 HR EST. AADT	2032	4,700	34,000		32,000
24 HR EST. AADT	2042	5,700	41,000		40,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	7.2%	7.2%	1.0%	1.0%	1000.0%	1000.0%	1.3%	1.3%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
2022	Approach D Factor	47.6%	52.4%	61.0%	39.0%	52.4%	47.6%	39.0%	61.0%
2032	Approach D Factor	47.6%	52.4%	61.0%	39.0%	52.4%	47.6%	39.0%	61.0%
2042	Approach D Factor	47.6%	52.4%	61.0%	39.0%	52.4%	47.6%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	47	(0)	116	134	1216	-1	1	0	0	(0)	831	37
2032	EST. TURNS	86	(0)	115	147	1,670	(1)	0	0	0	(0)	1,077	72
2042	EST. TURNS	119	(0)	126	166	2077	-1	0	0	0	(0)	1,313	100
2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	45	(0)	138	98	762	-1	1	0	0	(0)	1,343	57
2032	EST. TURNS	84	(0)	139	98	1,038	(0)	1	0	0	(0)	1,728	100
2042	EST. TURNS	116	(0)	152	107	1288	0	0	0	0	(0)	2,099	134

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:		100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES		100	100	200	100	100	200	100	100	200	100	100	200
2013	TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES		159	171	330	1482	948	2430	1	-1	0	807	1263	2070
2022	TURN SUMMARY	163	171	334	1349	948	2297	1	-1	0	868	1263	2131
CONTROL LINK VOLUMES		201	219	420	1867	1193	3060	1	-1	0	1123	1757	2880
2032	TURN SUMMARY	201	219	420	1817	1193	3010	1	-1	0	1149	1757	2906
CONTROL LINK VOLUMES		244	266	510	2251	1439	3690	1	-1	0	1404	2196	3600
2042	TURN SUMMARY	244	266	510	2243	1439	3682	1	-1	0	1412	2196	3608
DESIGN HOUR P.M.:		100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES		100	100	200	100	100	200	100	100	200	100	100	200
2013	TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES		174	156	330	948	1482	2430	1	-1	0	1263	807	2070
2022	TURN SUMMARY	183	156	339	860	1482	2342	1	-1	0	1400	807	2207
CONTROL LINK VOLUMES		222	198	420	1193	1867	3060	1	-1	0	1757	1123	2880
2032	TURN SUMMARY	223	198	421	1136	1867	3003	1	-1	0	1827	1123	2950
CONTROL LINK VOLUMES		269	241	510	1439	2251	3690	1	-1	0	2196	1404	3600
2042	TURN SUMMARY	268	241	509	1394	2251	3645	1	-1	0	2232	1404	3636

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Williamson Blvd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			2,830				2,830		EB	47%
Actual AADT:	2022	8,700		13,000				7,600		WB	53%
Actual AADT:	2032	14,000		20,000		12,000		12,000		NB	64%
Actual AADT:	2042	19,000		22,000				15,000		SB	36%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		20		2,830				2,830
NO. YEARS	2022		8,700		8,800				6,600
NO. YEARS	2032		14,000		15,000				11,000
NO. YEARS	2042		19,000		22,000		12,000		15,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			2,830			20			2,830		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,830	20	2,830	20	2,830	20	2,830	20	2,830	20	2,830	20	
50%	0%	50%	1%	99%	1%	50%	0%	50%	1%	99%	1%	
2022 2-WAY ADT	8,700			8,800			20			6,600		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
6,600	20	8,800	8,700	6,600	20	8,800	8,700	6,600	20	8,800	8,700	
43%	0%	57%	57%	43%	0%	37%	36%	27%	0%	50%	50%	
2032 2-WAY ADT	14,000			15,000			20			11,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
11,000	20	15,000	14,000	11,000	20	15,000	14,000	11,000	20	15,000	14,000	
42%	0%	58%	56%	44%	0%	38%	35%	28%	0%	52%	48%	
2042 2-WAY ADT	19,000			22,000			12,000			15,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
15,000	12,000	22,000	19,000	15,000	12,000	22,000	19,000	15,000	12,000	22,000	19,000	
31%	24%	45%	41%	33%	26%	39%	34%	27%	23%	42%	36%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		400
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	
P.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		400
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS		SB			WB			NB			EB		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	LEFT	
A.M.	2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
	2022	27%	45%	28%	28%	49%	23%	26%	49%	25%	23%	50%	27%
	2032	27%	44%	29%	29%	49%	22%	27%	48%	25%	22%	50%	28%
	2042	26%	46%	28%	28%	47%	25%	27%	47%	25%	25%	49%	27%
P.M.	2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
	2022	27%	45%	28%	28%	49%	23%	26%	49%	25%	23%	50%	27%
	2032	27%	44%	29%	29%	49%	22%	27%	48%	25%	22%	50%	28%
	2042	26%	46%	28%	28%	47%	25%	27%	47%	25%	25%	49%	27%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: _____ DATE: 3/11/2015
 FM NO.: _____ NOTES: No Build Alternative
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Williamson Blvd
 PREPARED BY: GMB
 FILE: Version 1

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	20	2,830	20	2,830
24 HR EST. AADT	2022	8,700	8,800	20	6,600
24 HR EST. AADT	2032	14,000	15,000	20	11,000
24 HR EST. AADT	2042	19,000	22,000	12,000	15,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	1000.0%	1000.0%	7.1%	7.1%	1000.0%	1000.0%	7.1%	7.1%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
2022	Approach D Factor	36.0%	64.0%	52.9%	47.1%	64.0%	36.0%	47.1%	52.9%
2032	Approach D Factor	36.0%	64.0%	52.9%	47.1%	64.0%	36.0%	47.1%	52.9%
2042	Approach D Factor	36.0%	64.0%	52.9%	47.1%	64.0%	36.0%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	127	(1)	209	323	183	0	0	1	0	(0)	161	174
2032	EST. TURNS	196	(1)	347	535	328	(0)	0	1	0	(0)	289	271
2042	EST. TURNS	155	172	318	494	449	151	226	387	111	66	389	213

P.M. DESIGN HR. TURNS

2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	142	(1)	266	173	133	0	0	0	0	(0)	151	106
2032	EST. TURNS	225	(1)	444	288	241	(0)	0	0	0	(0)	270	165
2042	EST. TURNS	200	374	473	303	373	211	147	162	63	106	427	151

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	100	100	200	100	100	200	100	100	200	100	100	200
2013 TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES	282	498	780	419	371	790	1	-1	0	280	310	590
2022 TURN SUMMARY	336	498	834	506	371	877	1	-1	0	336	310	646
CONTROL LINK VOLUMES	454	806	1260	714	636	1350	1	-1	0	466	524	990
2032 TURN SUMMARY	543	806	1349	862	636	1498	1	-1	0	559	524	1083
CONTROL LINK VOLUMES	616	1094	1710	1047	933	1980	691	389	1080	636	714	1350
2042 TURN SUMMARY	645	1094	1739	1094	933	2027	724	389	1113	667	714	1381
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	100	100	200	100	100	200	100	100	200	100	100	200
2013 TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES	501	279	780	373	417	790	1	-1	0	314	276	590
2022 TURN SUMMARY	408	279	687	306	417	723	1	-1	0	257	276	533
CONTROL LINK VOLUMES	806	454	1260	636	714	1350	1	-1	0	524	466	990
2032 TURN SUMMARY	668	454	1122	529	714	1243	1	-1	0	435	466	901
CONTROL LINK VOLUMES	1094	616	1710	933	1047	1980	389	691	1080	714	636	1350
2042 TURN SUMMARY	1046	616	1662	888	1047	1935	372	691	1063	684	636	1320

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Turnbull Bay Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	2,830		2,200		3,040				EB	47%
Actual AADT:	2022	13,000		3,900		9,200				WB	53%
Actual AADT:	2032	20,000		5,400		13,000				NB	47%
Actual AADT:	2042	22,000		6,200		13,000				SB	53%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	9		2,830		2,200		3,040		
NO. YEARS	19		8,800		3,400		6,100		
NO. YEARS	29		15,000		4,800		9,600		
			22,000		6,200		13,000		

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG				FROM EAST LEG				FROM SOUTH LEG				FROM WEST LEG			
	RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT	
2013 2-WAY ADT	2,830				2,200				3,040				20			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	THRU	LEFT	THRU	LEFT	
20	3,040	2,200	2,830	20	3,040	2,200	2,830	20	3,040	2,200	2,830	20	3,040	2,200	2,830	
0%	58%	42%	48%	0%	52%	44%	56%	0%	38%	27%	35%	20	3,040	2,200	2,830	
2022 2-WAY ADT	8,800				3,400				6,100				20			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	THRU	LEFT	THRU	LEFT	
20	6,100	3,400	8,800	20	6,100	3,400	8,800	20	6,100	3,400	8,800	20	6,100	3,400	8,800	
0%	64%	36%	59%	0%	41%	28%	72%	0%	33%	19%	48%	20	6,100	3,400	8,800	
2032 2-WAY ADT	15,000				4,800				9,600				20			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	THRU	LEFT	THRU	LEFT	
20	9,600	4,800	15,000	20	9,600	4,800	15,000	20	9,600	4,800	15,000	20	9,600	4,800	15,000	
0%	67%	33%	61%	0%	39%	24%	76%	0%	33%	16%	51%	20	9,600	4,800	15,000	
2042 2-WAY ADT	22,000				6,200				13,000				20			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	THRU	LEFT	THRU	LEFT	
20	13,000	6,200	22,000	20	13,000	6,200	22,000	20	13,000	6,200	22,000	20	13,000	6,200	22,000	
0%	68%	32%	63%	0%	37%	22%	78%	0%	32%	15%	53%	20	13,000	6,200	22,000	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)				FROM EAST LEG (Westbound)				FROM SOUTH LEG (Northbound)				FROM WEST LEG (Eastbound)				TOTAL
	RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		
A.M. 2-Way Pk Hr Vol:	284				151				189				6				
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	THRU	LEFT	
	101	59	63	17	10	59	6	6	101	59	63	17	10	59	6	6	315
% TURNS:	1%	63%	37%	78%	1%	21%	14%	84%	1%	33%	33%	33%	33%	33%	33%	33%	
P.M. 2-Way Pk Hr Vol:	332				195				209				6				
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	THRU	LEFT	
	80	84	74	17	18	92	6	6	80	84	74	17	18	92	6	6	371
% TURNS:	1%	48%	51%	80%	1%	18%	16%	83%	1%	33%	33%	33%	33%	33%	33%	33%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS		SB				WB				NB				EB			
		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT		RIGHT	THRU	LEFT	
A.M.	2013	1%	63%	37%	78%	1%	21%	14%	84%	1%	33%	33%	33%	33%	33%	33%	
	2022	1%	63%	37%	76%	1%	23%	16%	83%	1%	33%	32%	35%	32%	35%	35%	
	2032	1%	63%	36%	76%	1%	23%	16%	83%	1%	33%	31%	36%	31%	36%	36%	
	2042	1%	64%	36%	75%	1%	24%	16%	83%	1%	33%	30%	37%	30%	37%	37%	
P.M.	2013	1%	48%	51%	80%	1%	18%	16%	83%	1%	33%	33%	33%	33%	33%	33%	
	2022	1%	50%	49%	78%	1%	21%	17%	82%	1%	33%	32%	35%	32%	35%	35%	
	2032	1%	51%	49%	78%	1%	21%	17%	82%	1%	33%	31%	36%	31%	36%	36%	
	2042	1%	52%	48%	77%	1%	22%	17%	82%	1%	33%	30%	37%	30%	37%	37%	

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Turnbull Bay Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	2,830	2,200	3,040	
24 HR EST. AADT	2022	8,800	3,400	6,100	
24 HR EST. AADT	2032	15,000	4,800	9,600	
24 HR EST. AADT	2042	22,000	6,200	13,000	

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	10.0%	11.7%	6.9%	8.9%	6.2%	6.9%	30.0%	30.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	56.7%	49.7%	53.6%	47.2%	37.0%	53.1%	50.0%	50.0%
2022	Approach D Factor	52.9%	47.1%	52.8%	47.2%	47.1%	52.9%	47.2%	52.8%
2032	Approach D Factor	52.9%	47.1%	52.8%	47.2%	47.1%	52.9%	47.2%	52.8%
2042	Approach D Factor	52.9%	47.1%	52.8%	47.2%	47.1%	52.9%	47.2%	52.8%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2013	EST. TURNS	2	101	58	61	2	18	10	57	2	1	1	1
2022	EST. TURNS	(0)	265	125	135	0	26	23	236	(0)	0	0	0
2032	EST. TURNS	(1)	431	184	219	(0)	21	18	416	0	0	0	1
2042	EST. TURNS	(1)	601	250	316	0	18	15	616	0	0	0	1
P.M. DESIGN HR. TURNS													
2013	EST. TURNS	2	80	87	73	2	18	20	91	2	1	1	1
2022	EST. TURNS	(0)	235	139	130	0	25	26	287	0	0	0	0
2032	EST. TURNS	(1)	382	205	211	(0)	20	21	503	0	0	0	1
2042	EST. TURNS	(1)	534	279	302	0	17	18	744	0	0	0	1

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		161	119	280	81	69	150	70	120	190	3	7	10
2013	TURN SUMMARY	161	119	280	81	69	150	70	120	190	3	7	10
CONTROL LINK VOLUMES		419	371	790	162	148	310	259	291	550	1	-1	0
2022	TURN SUMMARY	389	371	760	161	148	309	258	291	549	1	-1	0
CONTROL LINK VOLUMES		714	636	1350	228	202	430	407	453	860	1	-1	0
2032	TURN SUMMARY	614	636	1250	240	202	442	434	453	887	1	-1	0
CONTROL LINK VOLUMES		1047	933	1980	295	265	560	551	619	1170	1	-1	0
2042	TURN SUMMARY	850	933	1783	334	265	599	631	619	1250	1	-1	0
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		165	165	330	92	108	200	111	99	210	3	7	10
2013	TURN SUMMARY	169	165	334	94	108	202	113	99	212	3	7	10
CONTROL LINK VOLUMES		373	417	790	144	166	310	290	260	550	1	-1	0
2022	TURN SUMMARY	374	417	791	154	166	320	313	260	573	1	-1	0
CONTROL LINK VOLUMES		636	714	1350	204	226	430	457	403	860	1	-1	0
2032	TURN SUMMARY	587	714	1301	231	226	457	524	403	927	1	-1	0
CONTROL LINK VOLUMES		933	1047	1980	263	297	560	619	551	1170	1	-1	0
2042	TURN SUMMARY	812	1047	1859	319	297	616	761	551	1312	1	-1	0

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Sugar Mill Dr		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	3,300		4,710		2,760		3,040		EB	47%
Actual AADT:	2022	3,800		7,300		3,200		6,100		WB	53%
Actual AADT:	2032	4,300		10,000		3,600		9,600		NB	51%
Actual AADT:	2042	4,900		13,000		4,100		13,000		SB	49%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		3,300		4,710		2,760		3,040
NO. YEARS	2022		3,800		7,300		3,200		6,100
NO. YEARS	2032		4,300		10,000		3,600		9,600
NO. YEARS	2042		4,900		13,000		4,100		13,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	3,300			4,710			2,760			3,040		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
3,040	2,760	4,710	3,300	3,040	2,760	4,710	3,300	3,040	2,760	4,710	3,300	
29%	26%	45%	36%	33%	30%	43%	30%	28%	26%	44%	31%	
2022 2-WAY ADT	3,800			7,300			3,200			6,100		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
6,100	3,200	7,300	3,800	6,100	3,200	7,300	3,800	6,100	3,200	7,300	3,800	
37%	19%	44%	29%	47%	24%	42%	22%	35%	22%	51%	27%	
2032 2-WAY ADT	4,300			10,000			3,600			9,600		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
9,600	3,600	10,000	4,300	9,600	3,600	10,000	4,300	9,600	3,600	10,000	4,300	
41%	16%	43%	25%	55%	21%	42%	18%	40%	20%	56%	24%	
2042 2-WAY ADT	4,900			13,000			4,100			13,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
13,000	4,100	13,000	4,900	13,000	4,100	13,000	4,900	13,000	4,100	13,000	4,900	
43%	14%	43%	22%	59%	19%	42%	16%	42%	19%	59%	22%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	244			159			288			209			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	51	110	7	4	42	35	34	51	41	17	37	21	450
% TURNS:	30%	65%	4%	5%	52%	43%	27%	40%	33%	23%	49%	28%	
P.M. 2-Way Pk Hr Vol:	299			191			313			281			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	51	89	13	10	35	27	41	81	34	41	65	55	542
% TURNS:	33%	58%	8%	14%	49%	38%	26%	52%	22%	25%	40%	34%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	30%	65%	4%	5%	52%	43%	27%	40%	33%	23%	49%	28%
2022	31%	61%	8%	7%	51%	41%	29%	39%	33%	23%	50%	28%
2032	32%	59%	9%	7%	52%	40%	29%	38%	33%	22%	50%	28%
2042	32%	57%	11%	8%	53%	39%	29%	36%	34%	22%	51%	27%
P.M.												
2013	33%	58%	8%	14%	49%	38%	26%	52%	22%	25%	40%	34%
2022	34%	54%	12%	15%	48%	36%	28%	49%	23%	25%	41%	33%
2032	34%	53%	13%	15%	49%	35%	28%	48%	24%	25%	42%	33%
2042	35%	51%	14%	15%	50%	34%	29%	46%	25%	24%	43%	32%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Sugar Mill Dr
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	3,300	4,710	2,760	3,040
24 HR EST. AADT	2022	3,800	7,300	3,200	6,100
24 HR EST. AADT	2032	4,300	10,000	3,600	9,600
24 HR EST. AADT	2042	4,900	13,000	4,100	13,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	7.4%	9.1%	3.4%	4.1%	10.4%	11.3%	6.9%	9.2%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%	9.0%	9.0%
2013	APPROACH D FACTOR	68.9%	51.2%	50.9%	37.7%	43.8%	49.8%	35.9%	57.3%
2022	Approach D Factor	48.8%	51.2%	52.9%	47.1%	51.2%	48.8%	47.1%	52.9%
2032	Approach D Factor	48.8%	51.2%	52.9%	47.1%	51.2%	48.8%	47.1%	52.9%
2042	Approach D Factor	48.8%	51.2%	52.9%	47.1%	51.2%	48.8%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	51	111	7	4	42	35	35	49	42	18	37	20
2022	EST. TURNS	59	127	8	54	205	76	70	55	26	13	193	64
2032	EST. TURNS	66	143	9	52	326	81	72	54	42	22	303	95
2042	EST. TURNS	76	163	10	56	454	96	80	52	59	33	417	117

P.M. DESIGN HR. TURNS

2013	EST. TURNS	51	88	13	10	35	26	40	81	33	40	64	56
2022	EST. TURNS	59	62	54	50	172	84	90	56	29	32	207	59
2032	EST. TURNS	82	61	55	51	275	94	95	55	46	52	327	86
2042	EST. TURNS	103	59	62	55	386	104	105	53	62	67	451	106

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		168	72	240	81	79	160	126	164	290	75	135	210
2013	TURN SUMMARY	168	72	240	81	79	160	126	164	290	75	135	210
CONTROL LINK VOLUMES		167	173	340	348	312	660	147	143	290	259	291	550
2022	TURN SUMMARY	194	173	367	334	271	605	151	216	366	270	290	560
CONTROL LINK VOLUMES		189	201	390	476	424	900	166	154	320	407	453	860
2032	TURN SUMMARY	218	201	419	459	384	843	168	246	414	420	434	854
CONTROL LINK VOLUMES		215	225	440	619	551	1170	189	181	370	551	619	1170
2042	TURN SUMMARY	249	225	474	605	507	1112	191	291	482	567	589	1156
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		153	147	300	72	118	190	156	154	310	161	119	280
2013	TURN SUMMARY	152	147	299	71	118	189	155	154	309	160	119	279
CONTROL LINK VOLUMES		175	165	340	309	351	660	172	178	350	290	260	550
2022	TURN SUMMARY	175	165	340	306	351	657	175	178	353	297	260	557
CONTROL LINK VOLUMES		198	192	390	424	476	900	193	207	400	457	403	860
2032	TURN SUMMARY	198	192	390	420	476	896	195	207	402	465	403	868
CONTROL LINK VOLUMES		226	214	440	551	619	1170	220	230	450	619	551	1170
2042	TURN SUMMARY	225	214	439	545	619	1164	220	230	450	624	551	1175

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Airport Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT	AM D Factor
Actual AADT:	2013	6,040	2,830	3,320	3,670	EB 47%
Actual AADT:	2022	9,800	6,600	4,100	7,500	WB 53%
Actual AADT:	2032	14,000	11,000	4,900	12,000	NB 52%
Actual AADT:	2042	18,000	15,000	5,700	16,000	SB 48%
Model Volume:						

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	9		6,040		2,830		3,320		3,670
NO. YEARS	19		9,800		6,600		4,100		7,500
NO. YEARS	29		14,000		11,000		4,900		12,000
			18,000		15,000		5,700		16,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG	FROM EAST LEG	FROM SOUTH LEG	FROM WEST LEG
2013 2-WAY ADT	6,040	2,830	3,320	3,670
RIGHT	THRU	LEFT	RIGHT	THRU
3,670	3,320	2,830	6,040	3,670
37%	34%	29%	46%	28%
2022 2-WAY ADT	9,800	6,600	4,100	7,500
RIGHT	THRU	LEFT	RIGHT	THRU
7,500	4,100	6,600	9,800	7,500
41%	23%	36%	46%	35%
2032 2-WAY ADT	14,000	11,000	4,900	12,000
RIGHT	THRU	LEFT	RIGHT	THRU
12,000	4,900	11,000	14,000	12,000
43%	18%	39%	45%	39%
2042 2-WAY ADT	18,000	15,000	5,700	16,000
RIGHT	THRU	LEFT	RIGHT	THRU
16,000	5,700	15,000	18,000	16,000
44%	16%	41%	45%	40%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)	FROM EAST LEG (Westbound)	FROM SOUTH LEG (Northbound)	FROM WEST LEG (Eastbound)	TOTAL
A.M. 2-Way Pk Hr Vol:	528	324	281	401	
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	104	65	70	71	96
% TURNS:	44%	27%	29%	41%	55%
P.M. 2-Way Pk Hr Vol:	618	377	367	402	
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	87	151	86	75	74
% TURNS:	27%	47%	27%	45%	44%

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	44%	27%	29%	41%	55%	5%	10%	67%	23%	7%	38%	55%
2022	43%	27%	30%	41%	53%	6%	12%	64%	24%	8%	37%	54%
2032	43%	26%	31%	41%	53%	6%	13%	63%	24%	8%	38%	54%
2042	44%	25%	31%	41%	52%	6%	14%	62%	24%	8%	38%	54%
P.M.												
2013	27%	47%	27%	45%	44%	11%	15%	77%	9%	15%	44%	41%
2022	28%	44%	28%	45%	43%	12%	16%	73%	11%	15%	42%	42%
2032	29%	43%	28%	45%	43%	12%	17%	72%	12%	15%	43%	42%
2042	30%	41%	29%	45%	43%	12%	17%	70%	13%	15%	43%	42%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Airport Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	6,040	2,830	3,320	3,670
24 HR EST. AADT	2022	9,800	6,600	4,100	7,500
24 HR EST. AADT	2032	14,000	11,000	4,900	12,000
24 HR EST. AADT	2042	18,000	15,000	5,700	16,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	8.7%	10.2%	11.4%	13.3%	8.5%	11.1%	10.9%	11.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	45.3%	52.4%	54.0%	44.6%	70.1%	44.4%	38.9%	56.5%
2022	Approach D Factor	47.6%	52.4%	52.9%	47.1%	52.4%	47.6%	47.1%	52.9%
2032	Approach D Factor	47.6%	52.4%	52.9%	47.1%	52.4%	47.6%	47.1%	52.9%
2042	Approach D Factor	47.6%	52.4%	52.9%	47.1%	52.4%	47.6%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	105	64	69	71	95	8	19	132	44	11	57	87
2022	EST. TURNS	168	127	135	146	154	22	24	134	40	28	118	180
2032	EST. TURNS	249	144	220	236	270	29	34	151	51	36	212	273
2042	EST. TURNS	328	161	299	321	372	37	43	170	62	43	294	358

P.M. DESIGN HR. TURNS

2013	EST. TURNS	86	153	87	76	74	19	24	126	14	34	100	94
2022	EST. TURNS	172	140	137	125	130	19	25	127	20	35	148	166
2032	EST. TURNS	257	161	226	204	226	26	34	145	27	43	263	251
2042	EST. TURNS	336	182	309	279	309	33	43	162	33	52	361	330

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	239	291	530	175	145	320	197	83	280	156	244	400
2013 TURN SUMMARY	238	291	529	174	145	319	196	83	279	155	244	399
CONTROL LINK VOLUMES	420	460	880	314	276	590	193	177	370	318	362	680
2022 TURN SUMMARY	430	460	890	322	276	598	198	177	375	326	362	688
CONTROL LINK VOLUMES	600	660	1260	524	466	990	231	209	440	509	571	1080
2032 TURN SUMMARY	613	660	1273	536	466	1002	236	209	445	521	571	1092
CONTROL LINK VOLUMES	771	849	1620	714	636	1350	269	241	510	678	762	1440
2042 TURN SUMMARY	788	849	1637	730	636	1366	275	241	516	694	762	1456
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	324	296	620	168	212	380	163	207	370	227	173	400
2013 TURN SUMMARY	326	296	622	169	212	381	164	207	371	229	173	402
CONTROL LINK VOLUMES	462	418	880	280	310	590	176	194	370	357	323	680
2022 TURN SUMMARY	450	418	868	274	310	584	172	194	366	349	323	672
CONTROL LINK VOLUMES	660	600	1260	466	524	990	210	230	440	571	509	1080
2032 TURN SUMMARY	644	600	1244	456	524	980	206	230	436	558	509	1067
CONTROL LINK VOLUMES	849	771	1620	636	714	1350	244	266	510	762	678	1440
2042 TURN SUMMARY	827	771	1598	621	714	1335	238	266	504	744	678	1422

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Turnbull Bay Rd & Williams Rd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			3,140		1,490		2,860		EB	51%
Actual AADT:	2022			4,800		3,000		3,500		WB	49%
Actual AADT:	2032			6,600		4,700		4,200		NB	49%
Actual AADT:	2042			8,400		6,400		4,900		SB	51%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013				3,140		1,490		2,860
NO. YEARS	2022				4,800		3,000		3,500
NO. YEARS	2032				6,600		4,700		4,200
NO. YEARS	2042				8,400		6,400		4,900

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			3,140			1,490			2,860		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,860	1,490	3,140	20	2,860	1,490	3,140	20	2,860	1,490	3,140	20	
38%	20%	42%	0%	65%	34%	52%	0%	48%	32%	68%	0%	
2022 2-WAY ADT	20			4,800			3,000			3,500		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
3,500	3,000	4,800	20	3,500	3,000	4,800	20	3,500	3,000	4,800	20	
31%	27%	42%	0%	54%	46%	58%	0%	42%	38%	61%	0%	
2032 2-WAY ADT	20			6,600			4,700			4,200		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
4,200	4,700	6,600	20	4,200	4,700	6,600	20	4,200	4,700	6,600	20	
27%	30%	43%	0%	47%	53%	61%	0%	39%	42%	58%	0%	
2042 2-WAY ADT	20			8,400			6,400			4,900		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
4,900	6,400	8,400	20	4,900	6,400	8,400	20	4,900	6,400	8,400	20	
25%	32%	43%	0%	43%	57%	63%	0%	37%	43%	57%	0%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	6			216			191			199			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
% TURNS:	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%	306
P.M. 2-Way Pk Hr Vol:	6			216			191			199			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
% TURNS:	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%	306

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2022	33%	33%	34%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2032	33%	33%	34%	1%	51%	48%	56%	1%	43%	41%	58%	1%
2042	32%	33%	35%	1%	51%	49%	56%	1%	43%	42%	57%	1%
P.M.												
2013	33%	33%	33%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2022	33%	33%	34%	1%	52%	47%	55%	1%	44%	41%	58%	1%
2032	33%	33%	34%	1%	51%	48%	56%	1%	43%	41%	58%	1%
2042	32%	33%	35%	1%	51%	49%	56%	1%	43%	42%	57%	1%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Turnbull Bay Rd & Williams Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	20	3,140	1,490	2,860
24 HR EST. AADT	2022	20	4,800	3,000	3,500
24 HR EST. AADT	2032	20	6,600	4,700	4,200
24 HR EST. AADT	2042	20	8,400	6,400	4,900

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	30.0%	30.0%	6.9%	6.9%	12.8%	12.8%	7.0%	7.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	46.8%	46.8%	52.8%	52.8%	50.7%	50.7%
2022	Approach D Factor	51.0%	49.0%	49.0%	51.0%	49.0%	51.0%	51.0%	49.0%
2032	Approach D Factor	51.0%	49.0%	49.0%	51.0%	49.0%	51.0%	51.0%	49.0%
2042	Approach D Factor	51.0%	49.0%	49.0%	51.0%	49.0%	51.0%	51.0%	49.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	1	1	1	2	54	47	57	2	44	41	61	2
2022	EST. TURNS	0	0	1	-1	118	95	95	(0)	41	43	123	(0)
2032	EST. TURNS	0	0	1	(1)	133	156	158	0	54	57	141	(0)
2042	EST. TURNS	0	0	1	-1	148	226	228	0	67	72	162	(0)

P.M. DESIGN HR. TURNS

2013	EST. TURNS	1	1	1	2	54	47	57	2	44	41	61	2
2022	EST. TURNS	0	0	0	-1	122	92	95	0	43	40	115	(0)
2032	EST. TURNS	0	0	0	(1)	138	152	156	0	57	52	130	(0)
2042	EST. TURNS	0	0	1	-1	154	220	224	0	70	66	149	(0)

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	101	119	220	101	89	190	101	99	200
2013 TURN SUMMARY	3	7	10	104	119	223	104	89	193	104	99	203
CONTROL LINK VOLUMES	1	-1	0	212	218	430	132	138	270	161	159	320
2022 TURN SUMMARY	1	-1	0	212	218	430	135	138	273	166	159	325
CONTROL LINK VOLUMES	1	-1	0	291	299	590	207	213	420	193	187	380
2032 TURN SUMMARY	1	-1	0	288	299	587	212	213	425	197	187	384
CONTROL LINK VOLUMES	1	-1	0	370	390	760	282	298	580	225	215	440
2042 TURN SUMMARY	1	-1	0	373	390	763	294	298	592	233	215	448
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	101	119	220	101	89	190	101	99	200
2013 TURN SUMMARY	3	7	10	104	119	223	104	89	193	104	99	203
CONTROL LINK VOLUMES	1	-1	0	220	210	430	138	132	270	154	166	320
2022 TURN SUMMARY	1	-1	0	214	210	424	138	132	270	154	166	320
CONTROL LINK VOLUMES	1	-1	0	303	287	590	216	204	420	185	195	380
2032 TURN SUMMARY	1	-1	0	290	287	577	213	204	417	182	195	377
CONTROL LINK VOLUMES	1	-1	0	386	374	760	294	286	580	216	224	440
2042 TURN SUMMARY	1	-1	0	373	374	747	294	286	580	215	224	439

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Turnbull Bay Rd & Shadow Pines Dr		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			2,100		170		2,200		EB	51%
Actual AADT:	2022			3,800		190		3,900		WB	49%
Actual AADT:	2032			5,700		220		5,700		NB	60%
Actual AADT:	2042			7,600		250		7,600		SB	40%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		20		2,100		170		2,200
9	2022		20		3,800		190		3,900
19	2032		20		5,700		220		5,700
29	2042		20		7,600		250		7,600

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			2,100			170			2,200		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,200	170	2,100	20	2,200	170	2,100	20	2,200	170	2,100	20	
49%	4%	47%	1%	92%	7%	49%	0%	51%	7%	92%	1%	
2022 2-WAY ADT	20			3,800			190			3,900		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
3,900	190	3,800	20	3,900	190	3,800	20	3,900	190	3,800	20	
49%	2%	48%	0%	95%	5%	49%	0%	51%	5%	95%	0%	
2032 2-WAY ADT	20			5,700			220			5,700		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
5,700	220	5,700	20	5,700	220	5,700	20	5,700	220	5,700	20	
49%	2%	49%	0%	96%	4%	50%	0%	50%	4%	96%	0%	
2042 2-WAY ADT	20			7,600			250			7,600		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
7,600	250	7,600	20	7,600	250	7,600	20	7,600	250	7,600	20	
49%	2%	49%	0%	97%	3%	50%	0%	50%	3%	97%	0%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	6			121			15			130			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				63	1	1	7	4	54			136	
% TURNS:	33%	33%	33%	2%	97%	2%	11%	11%	78%	7%	92%	2%	
P.M. 2-Way Pk Hr Vol:	6			193			17			198			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				96	3	2	4	6	90			207	
% TURNS:	33%	33%	33%	1%	96%	3%	29%	14%	57%	6%	93%	1%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	33%	33%	33%	2%	97%	2%	11%	11%	78%	7%	92%	2%
2022	35%	30%	35%	1%	97%	2%	15%	10%	75%	7%	92%	2%
2032	35%	29%	35%	1%	97%	2%	16%	10%	74%	6%	92%	2%
2042	36%	28%	36%	1%	97%	2%	18%	9%	73%	6%	92%	1%
P.M.												
2013	33%	33%	33%	1%	96%	3%	29%	14%	57%	6%	93%	1%
2022	35%	30%	35%	1%	96%	3%	31%	13%	56%	6%	93%	1%
2032	35%	29%	35%	1%	96%	3%	31%	13%	56%	6%	93%	1%
2042	36%	28%	36%	1%	96%	3%	32%	12%	56%	6%	93%	1%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO: DATE: 3/11/2015
 FM NO.: NOTES: Build Alternative
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Turnbull Bay Rd & Shadow Pines Dr
 PREPARED BY: GMB
 FILE: Version 1

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013		2,100	170	2,200
24 HR EST. AADT	2022		3,800	190	3,900
24 HR EST. AADT	2032		5,700	220	5,700
24 HR EST. AADT	2042		7,600	250	7,600

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	30.0%	30.0%	5.8%	9.2%	8.8%	10.0%	5.9%	9.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	53.7%	51.8%	60.0%	41.2%	45.4%	49.0%
2022	Approach D Factor	40.0%	60.0%	49.0%	51.0%	60.0%	40.0%	51.0%	49.0%
2032	Approach D Factor	40.0%	60.0%	49.0%	51.0%	60.0%	40.0%	51.0%	49.0%
2042	Approach D Factor	40.0%	60.0%	49.0%	51.0%	60.0%	40.0%	51.0%	49.0%

A.M. DESIGN HR. TURNS	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 EST. TURNS	1	2	1	2	64	2	1	2	6	7	53	2
2022 EST. TURNS	0	0	0	0	162	2	2	(0)	8	8	170	(0)
2032 EST. TURNS	0	0	0	(0)	238	2	2	0	9	6	256	(0)
2042 EST. TURNS	0	0	0	0	320	1	3	0	11	5	341	(0)
P.M. DESIGN HR. TURNS												
2013 EST. TURNS	1	1	1	2	98	4	2	2	4	8	88	3
2022 EST. TURNS	0	0	0	0	173	4	2	0	5	9	163	(0)
2032 EST. TURNS	0	0	0	(0)	254	4	3	0	5	7	244	(0)
2042 EST. TURNS	0	0	0	0	339	4	3	0	6	7	327	(0)

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	65	55	120	9	11	20	59	71	130
2013 TURN SUMMARY	3	7	10	68	55	123	9	11	20	63	71	134
CONTROL LINK VOLUMES	1	-1	0	168	172	340	10	10	20	179	171	350
2022 TURN SUMMARY	1	-1	0	164	172	336	10	10	20	177	171	348
CONTROL LINK VOLUMES	1	-1	0	251	259	510	12	8	20	262	248	510
2032 TURN SUMMARY	1	-1	0	240	259	499	12	8	20	262	248	510
CONTROL LINK VOLUMES	1	-1	0	335	345	680	14	6	20	349	331	680
2042 TURN SUMMARY	1	-1	0	321	345	666	14	6	20	346	331	677
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	100	90	190	7	13	20	97	103	200
2013 TURN SUMMARY	3	7	10	104	90	194	7	13	20	98	103	201
CONTROL LINK VOLUMES	1	-1	0	174	166	340	7	13	20	172	178	350
2022 TURN SUMMARY	1	-1	0	177	166	343	7	13	20	171	178	349
CONTROL LINK VOLUMES	1	-1	0	262	248	510	8	12	20	251	259	510
2032 TURN SUMMARY	1	-1	0	258	248	506	8	12	20	252	259	511
CONTROL LINK VOLUMES	1	-1	0	349	331	680	9	11	20	335	345	680
2042 TURN SUMMARY	1	-1	0	343	331	674	9	11	20	334	345	679

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Yorktowne Blvd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT	AM D Factor
Actual AADT:	2013	6,780	36,000	6,100	38,000	EB 58%
Actual AADT:	2022	7,800	40,000	7,000	41,000	WB 42%
Actual AADT:	2032	8,900	45,000	8,000	45,000	NB 50%
Actual AADT:	2042	10,000	50,000	9,000	49,000	SB 50%
Model Volume:						

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		6,780		36,000		6,100		38,000
NO. YEARS	2022		7,800		40,000		7,000		41,000
NO. YEARS	2032		8,900		45,000		8,000		45,000
NO. YEARS	2042		10,000		50,000		9,000		49,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG	FROM EAST LEG	FROM SOUTH LEG	FROM WEST LEG
2013 2-WAY ADT	6,780	36,000	6,100	38,000
RIGHT	THRU	LEFT	RIGHT	THRU
38,000	6,100	36,000	6,780	38,000
47%	8%	45%	13%	75%
2022 2-WAY ADT	7,800	40,000	7,000	41,000
RIGHT	THRU	LEFT	RIGHT	THRU
41,000	7,000	40,000	7,800	41,000
47%	8%	45%	14%	73%
2032 2-WAY ADT	8,900	45,000	8,000	45,000
RIGHT	THRU	LEFT	RIGHT	THRU
45,000	8,000	45,000	8,900	45,000
46%	8%	46%	14%	73%
2042 2-WAY ADT	10,000	50,000	9,000	49,000
RIGHT	THRU	LEFT	RIGHT	THRU
49,000	9,000	50,000	10,000	49,000
45%	8%	46%	15%	72%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)	FROM EAST LEG (Westbound)	FROM SOUTH LEG (Northbound)	FROM WEST LEG (Eastbound)	TOTAL	
A.M. 2-Way Pk Hr Vol:	584	3,218	552	3,418		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
123	30	230	104	1,227	19	
% TURNS:	32%	8%	60%	8%	91%	1%
P.M. 2-Way Pk Hr Vol:	613	3,402	580	3,367		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
59	62	217	137	1,672	90	
% TURNS:	17%	18%	64%	7%	88%	5%

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	32%	8%	60%	8%	91%	1%	7%	10%	83%	0%	97%	3%
2022	34%	8%	59%	8%	89%	3%	11%	10%	79%	1%	94%	4%
2032	34%	8%	58%	9%	89%	3%	12%	10%	78%	2%	94%	4%
2042	34%	8%	58%	9%	88%	3%	14%	10%	77%	2%	93%	5%
P.M.												
2013	17%	18%	64%	7%	88%	5%	15%	10%	74%	1%	92%	7%
2022	20%	17%	62%	8%	87%	6%	18%	10%	72%	2%	90%	8%
2032	21%	17%	62%	8%	86%	6%	19%	10%	71%	2%	90%	8%
2042	22%	17%	61%	8%	85%	6%	21%	10%	69%	3%	89%	8%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Yorktowne Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	6,780	36,000	6,100	38,000
24 HR EST. AADT	2022	7,800	40,000	7,000	41,000
24 HR EST. AADT	2032	8,900	45,000	8,000	45,000
24 HR EST. AADT	2042	10,000	50,000	9,000	49,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	8.6%	9.0%	8.9%	9.5%	9.0%	9.5%	9.0%	8.9%
2022	Standard K Factor	11.0%	11.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.0%
2032	Standard K Factor	11.0%	11.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.0%
2042	Standard K Factor	11.0%	11.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.0%
2013	APPROACH D FACTOR	65.6%	55.1%	42.0%	55.8%	90.4%	72.6%	48.4%	39.3%
2022	Approach D Factor	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	58.0%	42.0%
2032	Approach D Factor	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	58.0%	42.0%
2042	Approach D Factor	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS	2013 EST. TURNS	123	29	231	102	1229	18	37	47	414	4	1,602	48
	2022 EST. TURNS	142	22	265	211	1158	143	42	55	475	126	1,848	154
	2032 EST. TURNS	161	27	302	247	1,271	173	49	63	543	146	2,048	167
	2042 EST. TURNS	182	28	340	282	1384	204	55	71	611	170	2,237	184
P.M. DESIGN HR. TURNS	2013 EST. TURNS	59	62	216	135	1674	90	65	42	314	7	1,220	94
	2022 EST. TURNS	68	111	250	192	1756	190	75	49	359	60	1,262	190
	2032 EST. TURNS	77	128	285	230	1,927	223	85	56	410	71	1,395	203
	2042 EST. TURNS	87	143	320	270	2097	257	96	63	462	88	1,523	216

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		383	197	580	1350	1870	3220	499	51	550	1654	1766	3420
2013	TURN SUMMARY	383	197	580	1349	1870	3219	499	51	550	1654	1766	3420
CONTROL LINK VOLUMES		429	431	860	1512	2088	3600	385	385	770	2140	1550	3690
2022	TURN SUMMARY	429	420	849	1513	2155	3668	572	292	864	2129	1775	3904
CONTROL LINK VOLUMES		490	490	980	1701	2349	4050	440	440	880	2349	1701	4050
2032	TURN SUMMARY	490	477	967	1691	2399	4090	655	345	1000	2361	1975	4335
CONTROL LINK VOLUMES		550	550	1100	1890	2610	4500	495	495	990	2558	1852	4410
2042	TURN SUMMARY	550	538	1088	1871	2632	4503	737	402	1139	2592	2177	4769
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		338	272	610	1899	1501	3400	421	159	580	1323	2047	3370
2013	TURN SUMMARY	338	272	610	1899	1501	3400	421	159	580	1321	2047	3368
CONTROL LINK VOLUMES		429	431	860	2088	1512	3600	385	385	770	1550	2140	3690
2022	TURN SUMMARY	429	431	860	2137	1587	3725	483	361	844	1513	2183	3696
CONTROL LINK VOLUMES		490	490	980	2349	1701	4050	440	440	880	1701	2349	4050
2032	TURN SUMMARY	490	489	978	2380	1765	4145	551	422	973	1670	2414	4084
CONTROL LINK VOLUMES		550	550	1100	2610	1890	4500	495	495	990	1852	2558	4410
2042	TURN SUMMARY	550	549	1099	2624	1939	4563	621	488	1109	1827	2646	4473

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Williamson Blvd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	16,480		35,490		18,900		16,900		EB	57%
Actual AADT:	2022	29,000		43,000		26,000		19,000		WB	43%
Actual AADT:	2032	44,000		52,000		35,000		21,000		NB	64%
Actual AADT:	2042	58,000		60,000		43,000		23,000		SB	36%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	9		16,480		35,490		18,900		16,900
NO. YEARS	19		29,000		43,000		26,000		19,000
NO. YEARS	29		44,000		52,000		35,000		21,000
			58,000		60,000		43,000		23,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	16,480			35,490			18,900			16,900		
RIGHT												
THRU	16,900	18,900	35,490	16,480	16,900	18,900	35,490	16,480	16,900	18,900	35,490	16,480
LEFT	24%	27%	50%	32%	32%	36%	52%	24%	25%	27%	50%	23%
2022 2-WAY ADT	29,000			43,000			26,000			19,000		
RIGHT												
THRU	19,000	26,000	43,000	29,000	19,000	26,000	43,000	29,000	19,000	26,000	43,000	29,000
LEFT	22%	30%	49%	39%	26%	35%	47%	32%	21%	27%	44%	30%
2032 2-WAY ADT	44,000			52,000			35,000			21,000		
RIGHT												
THRU	21,000	35,000	52,000	44,000	21,000	35,000	52,000	44,000	21,000	35,000	52,000	44,000
LEFT	19%	32%	48%	44%	21%	35%	44%	38%	18%	27%	40%	34%
2042 2-WAY ADT	58,000			60,000			43,000			23,000		
RIGHT												
THRU	23,000	43,000	60,000	58,000	23,000	43,000	60,000	58,000	23,000	43,000	60,000	58,000
LEFT	18%	34%	47%	47%	19%	35%	43%	41%	16%	27%	37%	36%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	841			2,531			1,679			1,229			
RIGHT													
THRU	16	122	189	209	397	356	758	277	88	78	622	28	3,140
LEFT													
% TURNS:	5%	37%	58%	22%	41%	37%	67%	25%	8%	11%	85%	4%	
P.M. 2-Way Pk Hr Vol:	1,438			3,110			1,795			1,571			
RIGHT													
THRU	39	414	471	283	736	634	401	183	68	95	585	48	3,957
LEFT													
% TURNS:	4%	45%	51%	17%	45%	38%	62%	28%	10%	13%	80%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	5%	37%	58%	22%	41%	37%	67%	25%	8%	11%	85%	4%
2022	7%	37%	57%	23%	40%	37%	65%	25%	9%	12%	81%	6%
2032	7%	37%	57%	25%	39%	37%	65%	26%	9%	13%	80%	8%
2042	7%	37%	56%	26%	37%	37%	63%	27%	9%	13%	77%	9%
P.M.												
2013	4%	45%	51%	17%	45%	38%	62%	28%	10%	13%	80%	7%
2022	6%	43%	51%	19%	43%	38%	60%	28%	11%	14%	77%	9%
2032	6%	43%	51%	20%	42%	38%	59%	29%	11%	15%	75%	10%
2042	7%	43%	50%	22%	40%	38%	58%	30%	11%	15%	73%	11%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Williamson Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	16,480	35,490	18,900	16,900
24 HR EST. AADT	2022	29,000	43,000	26,000	19,000
24 HR EST. AADT	2032	44,000	52,000	35,000	21,000
24 HR EST. AADT	2042	58,000	60,000	43,000	23,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	5.1%	8.7%	7.1%	8.8%	8.9%	9.5%	7.3%	9.3%
2022	Approach K30 factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	10.0%
2032	Approach K30 factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	10.0%
2042	Approach K30 factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	10.0%
2013	APPROACH D FACTOR	38.9%	64.3%	38.0%	53.2%	66.9%	36.3%	59.2%	46.3%
2022	Approach D30 Factor	36.0%	64.0%	43.0%	57.0%	64.0%	36.0%	57.0%	43.0%
2032	Approach D30 Factor	36.0%	64.0%	43.0%	57.0%	64.0%	36.0%	57.0%	43.0%
2042	Approach D30 Factor	36.0%	64.0%	43.0%	57.0%	64.0%	36.0%	57.0%	43.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	16	122	189	208	398	356	758	277	88	78	622	28
2022	EST. TURNS	69	318	621	805	560	428	786	716	106	96	799	148
2032	EST. TURNS	107	526	921	1,142	578	493	927	1154	128	115	821	238
2042	EST. TURNS	148	718	1,201	1447	593	544	1045	1554	148	131	831	340

P.M. DESIGN HR. TURNS

2013	EST. TURNS	39	416	471	284	735	637	401	184	68	96	585	48
2022	EST. TURNS	113	708	740	523	876	676	383	310	95	114	541	107
2032	EST. TURNS	169	1,109	1,041	771	916	776	437	493	112	130	534	162
2042	EST. TURNS	234	1,474	1,311	1002	949	857	481	657	129	146	529	219

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	327	513	840	962	1568	2530	1123	557	1680	728	502	1230
2013 TURN SUMMARY	327	513	840	962	1568	2530	1123	557	1680	728	502	1230
CONTROL LINK VOLUMES	940	1670	2610	1664	2206	3870	1498	842	2340	975	735	1710
2022 TURN SUMMARY	1007	1670	2677	1793	2206	3999	1608	842	2450	1044	735	1779
CONTROL LINK VOLUMES	1426	2534	3960	2012	2668	4680	2016	1134	3150	1077	813	1890
2032 TURN SUMMARY	1554	2534	4088	2213	2668	4881	2208	1134	3342	1174	813	1987
CONTROL LINK VOLUMES	1879	3341	5220	2322	3078	5400	2477	1393	3870	1180	890	2070
2042 TURN SUMMARY	2068	3341	5409	2584	3078	5662	2748	1393	4141	1302	890	2192
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	924	516	1440	1653	1457	3110	652	1148	1800	728	842	1570
2013 TURN SUMMARY	925	516	1441	1656	1457	3113	653	1148	1801	729	842	1571
CONTROL LINK VOLUMES	1670	940	2610	2206	1664	3870	842	1498	2340	817	1083	1900
2022 TURN SUMMARY	1560	940	2500	2075	1664	3739	788	1498	2286	762	1083	1845
CONTROL LINK VOLUMES	2534	1426	3960	2668	2012	4680	1134	2016	3150	903	1197	2100
2032 TURN SUMMARY	2320	1426	3746	2463	2012	4475	1042	2016	3058	826	1197	2023
CONTROL LINK VOLUMES	3341	1879	5220	3078	2322	5400	1393	2477	3870	989	1311	2300
2042 TURN SUMMARY	3019	1879	4898	2808	2322	5130	1267	2477	3744	895	1311	2206

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Taylor Rd		

NOTES:

No Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			38,000		9,000		45,500		EB	58%
Actual AADT:	2022			41,000		9,900		52,000		WB	42%
Actual AADT:	2032			45,000		11,000		59,000		NB	34%
Actual AADT:	2042			49,000		12,000		66,000		SB	66%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013				38,000		9,000		45,500
NO. YEARS	2022				41,000		9,900		52,000
NO. YEARS	2032				45,000		11,000		59,000
NO. YEARS	2042				49,000		12,000		66,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			38,000			9,000			45,500		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
45,500	9,000	38,000	20	45,500	9,000	38,000	20	45,500	9,000	38,000	20	
49%	10%	41%	0%	83%	17%	45%	0%	54%	19%	81%	0%	
2022 2-WAY ADT	20			41,000			9,900			52,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
52,000	9,900	41,000	20	52,000	9,900	41,000	20	52,000	9,900	41,000	20	
51%	10%	40%	0%	84%	16%	44%	0%	56%	19%	81%	0%	
2032 2-WAY ADT	20			45,000			11,000			59,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
59,000	11,000	45,000	20	59,000	11,000	45,000	20	59,000	11,000	45,000	20	
51%	10%	39%	0%	84%	16%	43%	0%	57%	20%	80%	0%	
2042 2-WAY ADT	20			49,000			12,000			66,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
66,000	12,000	49,000	20	66,000	12,000	49,000	20	66,000	12,000	49,000	20	
52%	9%	39%	0%	85%	15%	43%	0%	57%	20%	80%	0%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	6			3,420			522			3,540			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				1,742	22	178			319	1,476		3,744	
% TURNS:	33%	33%	33%	0%	99%	1%	99%	1%	1%	18%	82%	0%	
P.M. 2-Way Pk Hr Vol:	6			3,768			811			4,209			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
				1,989	55	129			624	1,593		4,397	
% TURNS:	33%	33%	33%	0%	97%	3%	98%	1%	1%	28%	72%	0%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	33%	33%	33%	0%	99%	1%	99%	1%	1%	18%	82%	0%
2022	35%	31%	34%	0%	97%	3%	93%	1%	6%	18%	82%	0%
2032	36%	30%	34%	0%	97%	3%	92%	0%	8%	18%	82%	0%
2042	36%	29%	34%	0%	96%	4%	90%	0%	10%	18%	82%	0%
P.M.												
2013	33%	33%	33%	0%	97%	3%	98%	1%	1%	28%	72%	0%
2022	35%	31%	34%	0%	96%	4%	93%	1%	6%	27%	73%	0%
2032	36%	30%	34%	0%	96%	4%	92%	1%	8%	27%	73%	0%
2042	36%	29%	34%	0%	95%	5%	89%	1%	10%	27%	73%	0%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Taylor Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: No Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013		38,000	9,000	45,500
24 HR EST. AADT	2022		41,000	9,900	52,000
24 HR EST. AADT	2032		45,000	11,000	59,000
24 HR EST. AADT	2042		49,000	12,000	66,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	30.0%	30.0%	9.0%	9.9%	5.8%	9.0%	7.8%	9.3%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	51.6%	54.3%	34.5%	16.2%	50.7%	52.7%
2022	Approach D Factor	66.0%	34.0%	42.0%	58.0%	34.0%	34.0%	58.0%	42.0%
2032	Approach D Factor	66.0%	34.0%	42.0%	58.0%	34.0%	34.0%	58.0%	42.0%
2042	Approach D Factor	66.0%	34.0%	42.0%	58.0%	34.0%	34.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	1	1	1	2	1742	22	177	2	1	317	1,477	2
2022	EST. TURNS	1	0	0	0	1904	24	293	(0)	1	569	1,908	(0)
2032	EST. TURNS	1	0	0	(0)	2,133	26	330	0	1	635	2,116	(0)
2042	EST. TURNS	1	0	0	0	2348	28	369	0	1	693	2,335	(1)

P.M. DESIGN HR. TURNS

2013	EST. TURNS	1	1	1	2	1990	55	128	2	1	623	1,596	2
2022	EST. TURNS	1	0	0	0	2653	59	302	-1	1	713	1,821	(0)
2032	EST. TURNS	1	0	0	(0)	2,984	65	340	-1	1	809	2,066	(0)
2042	EST. TURNS	1	0	0	0	3300	71	380	-1	1	905	2,311	(0)

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	1765	1655	3420	180	340	520	1796	1744	3540
2013 TURN SUMMARY	3	7	10	1766	1655	3421	180	340	520	1797	1744	3541
CONTROL LINK VOLUMES	1	-1	0	1550	2140	3690	303	587	890	2714	1966	4680
2022 TURN SUMMARY	1	-1	0	1927	2202	4129	294	593	887	2477	1905	4382
CONTROL LINK VOLUMES	1	-1	0	1701	2349	4050	337	653	990	3080	2230	5310
2032 TURN SUMMARY	1	-1	0	2158	2446	4604	330	661	991	2750	2134	4884
CONTROL LINK VOLUMES	1	-1	0	1852	2558	4410	367	713	1080	3445	2495	5940
2042 TURN SUMMARY	1	-1	0	2376	2704	5080	369	721	1090	3028	2350	5377
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	3	7	10	2045	1725	3770	131	679	810	2218	1992	4210
2013 TURN SUMMARY	3	7	10	2047	1725	3772	131	679	810	2221	1992	4213
CONTROL LINK VOLUMES	1	-1	0	2140	1550	3690	303	587	890	1966	2714	4680
2022 TURN SUMMARY	1	-1	0	2712	2123	4834	302	772	1074	2534	2655	5188
CONTROL LINK VOLUMES	1	-1	0	2349	1701	4050	337	653	990	2230	3080	5310
2032 TURN SUMMARY	1	-1	0	3049	2406	5455	340	874	1214	2875	2986	5861
CONTROL LINK VOLUMES	1	-1	0	2558	1852	4410	367	713	1080	2495	3445	5940
2042 TURN SUMMARY	1	-1	0	3371	2691	6062	380	976	1357	3216	3302	6518

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Summer Trees Rd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT				
Actual AADT:	2013	4,600		16,900		1,600		14,010		EB	58%
Actual AADT:	2022	5,300		19,000		1,800		16,000		WB	42%
Actual AADT:	2032	6,000		21,000		2,100		17,000		NB	55%
Actual AADT:	2042	6,800		23,000		2,400		19,000		SB	45%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	9		4,600		16,900		1,600		14,010
NO. YEARS	19		5,300		19,000		1,800		16,000
NO. YEARS	29		6,000		21,000		2,100		17,000
			6,800		23,000		2,400		19,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	4,600			16,900			1,600			14,010		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
14,010	1,600	16,900	4,600	14,010	1,600	16,900	4,600	14,010	1,600	16,900	4,600	
43%	5%	52%	23%	69%	8%	48%	13%	39%	7%	73%	20%	
2022 2-WAY ADT	5,300			19,000			1,800			16,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
16,000	1,800	19,000	5,300	16,000	1,800	19,000	5,300	16,000	1,800	19,000	5,300	
43%	5%	52%	23%	69%	8%	47%	13%	40%	7%	73%	20%	
2032 2-WAY ADT	6,000			21,000			2,100			17,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
17,000	2,100	21,000	6,000	17,000	2,100	21,000	6,000	17,000	2,100	21,000	6,000	
42%	5%	52%	24%	68%	8%	48%	14%	39%	7%	72%	21%	
2042 2-WAY ADT	6,800			23,000			2,400			19,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
19,000	2,400	23,000	6,800	19,000	2,400	23,000	6,800	19,000	2,400	23,000	6,800	
43%	5%	52%	24%	67%	9%	47%	14%	39%	7%	71%	21%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	252			1,229			105			1,312			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	62	5	45	14	468	19	26	28	21	6	657	98	1,449
% TURNS:	55%	4%	40%	3%	93%	4%	35%	37%	28%	1%	86%	13%	
P.M. 2-Way Pk Hr Vol:	417			1,571			148			1,698			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	177	38	58	39	760	44	23	17	11	15	647	88	1,917
% TURNS:	65%	14%	21%	5%	90%	5%	45%	33%	22%	2%	86%	12%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	55%	4%	40%	3%	93%	4%	35%	37%	28%	1%	86%	13%
2022	54%	5%	41%	5%	91%	4%	36%	35%	29%	1%	85%	14%
2032	54%	5%	42%	5%	90%	4%	36%	34%	29%	2%	85%	14%
2042	53%	5%	42%	6%	89%	5%	37%	33%	30%	2%	84%	14%
P.M.												
2013	65%	14%	21%	5%	90%	5%	45%	33%	22%	2%	86%	12%
2022	63%	13%	24%	6%	88%	5%	45%	31%	23%	2%	85%	13%
2032	62%	13%	25%	7%	87%	6%	45%	31%	24%	3%	85%	13%
2042	61%	13%	26%	8%	86%	6%	45%	30%	24%	3%	84%	13%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Summer Trees Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	4,600	16,900	1,600	14,010
24 HR EST. AADT	2022	5,300	19,000	1,800	16,000
24 HR EST. AADT	2032	6,000	21,000	2,100	17,000
24 HR EST. AADT	2042	6,800	23,000	2,400	19,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	5.5%	9.1%	7.3%	9.3%	6.6%	9.3%	9.4%	12.1%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%
2013	APPROACH D FACTOR	44.4%	65.5%	40.8%	53.7%	71.4%	34.5%	58.0%	44.2%
2022	Approach D Factor	45.0%	65.0%	42.0%	58.0%	55.0%	35.0%	58.0%	42.0%
2032	Approach D Factor	45.0%	65.0%	42.0%	58.0%	55.0%	35.0%	58.0%	42.0%
2042	Approach D Factor	45.0%	65.0%	42.0%	58.0%	55.0%	35.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	62	6	45	14	466	22	26	28	21	7	658	97
2022	EST. TURNS	60	11	157	97	535	52	43	42	10	8	792	127
2032	EST. TURNS	61	12	187	123	570	64	54	47	11	10	855	128
2042	EST. TURNS	75	15	202	139	628	72	61	51	15	14	938	145

P.M. DESIGN HR. TURNS

2013	EST. TURNS	177	39	58	40	762	45	23	17	11	15	646	90
2022	EST. TURNS	210	36	58	51	888	46	22	17	16	22	638	103
2032	EST. TURNS	221	43	77	65	946	57	28	19	17	24	689	105
2042	EST. TURNS	256	48	84	72	1044	64	31	20	22	32	755	120

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		112	138	250	501	729	1230	75	35	110	761	549	1310
2013	TURN SUMMARY	112	138	250	502	729	1231	75	35	110	762	549	1311
CONTROL LINK VOLUMES		215	265	480	718	992	1710	89	71	160	835	605	1440
2022	TURN SUMMARY	228	265	493	684	992	1676	95	71	166	927	605	1532
CONTROL LINK VOLUMES		243	297	540	794	1096	1890	104	86	190	887	643	1530
2032	TURN SUMMARY	260	297	557	757	1096	1853	112	86	198	993	643	1636
CONTROL LINK VOLUMES		275	335	610	869	1201	2070	119	101	220	992	718	1710
2042	TURN SUMMARY	292	335	627	839	1201	2040	127	101	228	1097	718	1815
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		273	147	420	843	727	1570	51	99	150	750	950	1700
2013	TURN SUMMARY	274	147	421	846	727	1573	51	99	150	752	950	1702
CONTROL LINK VOLUMES		310	170	480	992	718	1710	57	103	160	806	1114	1920
2022	TURN SUMMARY	305	170	475	984	718	1702	55	103	158	762	1114	1876
CONTROL LINK VOLUMES		351	189	540	1096	794	1890	66	124	190	857	1183	2040
2032	TURN SUMMARY	340	189	529	1068	794	1862	63	124	187	818	1183	2001
CONTROL LINK VOLUMES		398	212	610	1201	869	2070	76	144	220	958	1322	2280
2042	TURN SUMMARY	388	212	600	1180	869	2049	73	144	217	906	1322	2228

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and I-95 Ramps		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	18,600		45,500		7,400		35,490		EB	55%
Actual AADT:	2022	20,000		52,000		9,000		43,000		WB	45%
Actual AADT:	2032	22,000		59,000		11,000		52,000		NB	60%
Actual AADT:	2042	24,800		66,000		12,800		60,000		SB	40%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		18,600		45,500		7,400		35,490
9	2022		20,000		52,000		9,000		43,000
19	2032		22,000		59,000		11,000		52,000
29	2042		24,800		66,000		12,800		60,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	18,600			45,500			7,400			35,490		
RIGHT	18,600			45,500			7,400			35,490		
THRU												
LEFT												
35,490	7,400	45,500	18,600	35,490	7,400	45,500	18,600	35,490	7,400	45,500	18,600	
40%	8%	51%	30%	58%	12%	46%	19%	36%	10%	64%	26%	
2022 2-WAY ADT	20,000			52,000			9,000			43,000		
RIGHT	20,000			52,000			9,000			43,000		
THRU												
LEFT												
43,000	9,000	52,000	20,000	43,000	9,000	52,000	20,000	43,000	9,000	52,000	20,000	
41%	9%	50%	28%	60%	13%	45%	17%	37%	11%	64%	25%	
2032 2-WAY ADT	22,000			59,000			11,000			52,000		
RIGHT	22,000			59,000			11,000			52,000		
THRU												
LEFT												
52,000	11,000	59,000	22,000	52,000	11,000	59,000	22,000	52,000	11,000	59,000	22,000	
43%	9%	48%	26%	61%	13%	44%	17%	39%	12%	64%	24%	
2042 2-WAY ADT	24,800			66,000			12,800			60,000		
RIGHT	24,800			66,000			12,800			60,000		
THRU												
LEFT												
60,000	12,800	66,000	24,800	60,000	12,800	66,000	24,800	60,000	12,800	66,000	24,800	
43%	9%	48%	25%	61%	13%	44%	16%	40%	12%	64%	24%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	1,720			3,537			576			2,531			
RIGHT	1,720			3,537			576			2,531			
THRU													
LEFT													
126	403	829	753	160	257	83	74	1,135	360			4,182	
% TURNS:	24%	0%	76%	48%	43%	9%	75%	0%	24%	5%	72%	23%	
P.M. 2-Way Pk Hr Vol:	1,318			3,936			690			3,170			
RIGHT	1,318			3,936			690			3,170			
THRU													
LEFT													
223	479	419	1,325	245	242	105	96	1,226	195			4,557	
% TURNS:	32%	0%	68%	21%	67%	12%	70%	0%	30%	6%	81%	13%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	24%	0%	76%	48%	43%	9%	75%	0%	24%	5%	72%	23%
2022	26%	1%	73%	46%	45%	10%	72%	2%	26%	5%	72%	23%
2032	26%	1%	73%	45%	45%	10%	71%	2%	26%	6%	71%	23%
2042	27%	2%	71%	44%	46%	10%	70%	3%	27%	6%	71%	23%
P.M.												
2013	32%	0%	68%	21%	67%	12%	70%	0%	30%	6%	81%	13%
2022	33%	1%	66%	22%	66%	12%	67%	2%	31%	7%	79%	14%
2032	33%	1%	66%	22%	66%	12%	66%	2%	31%	7%	79%	14%
2042	34%	2%	65%	22%	66%	12%	65%	3%	32%	7%	78%	15%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and I-95 Ramps
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	18,600	45,500	7,400	35,490
24 HR EST. AADT	2022	20,000	52,000	9,000	43,000
24 HR EST. AADT	2032	22,000	59,000	11,000	52,000
24 HR EST. AADT	2042	24,800	66,000	12,800	60,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	9.2%	7.1%	7.8%	8.7%	7.8%	9.3%	7.1%	8.9%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	30.8%	53.3%	49.3%	50.5%	59.2%	50.4%	62.0%	47.9%
2022	Approach D Factor	45.0%	55.0%	45.0%	55.0%	55.0%	45.0%	55.0%	45.0%
2032	Approach D Factor	45.0%	55.0%	45.0%	55.0%	55.0%	45.0%	55.0%	45.0%
2042	Approach D Factor	45.0%	55.0%	45.0%	55.0%	55.0%	45.0%	55.0%	45.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	126	1	404	829	752	163	258	1	83	75	1,136	360
2022	EST. TURNS	266	8	561	632	1327	220	307	5	148	136	1,706	352
2032	EST. TURNS	329	12	570	648	1,573	246	347	8	204	187	2,003	434
2042	EST. TURNS	393	17	613	699	1787	269	385	11	250	229	2,268	515

P.M. DESIGN HR. TURNS

2013	EST. TURNS	223	1	480	421	1325	245	243	1	105	96	1,228	195
2022	EST. TURNS	347	10	598	538	1660	306	223	8	121	128	1,285	264
2032	EST. TURNS	432	15	611	552	1,974	349	254	11	168	180	1,524	329
2042	EST. TURNS	515	23	658	594	2248	386	282	15	207	223	1,733	392

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	530	1190	1720	1742	1798	3540	341	239	580	1569	961	2530
2013 TURN SUMMARY	531	1190	1721	1744	1798	3542	342	239	581	1571	961	2532
CONTROL LINK VOLUMES	810	990	1800	2106	2574	4680	446	364	810	2129	1741	3870
2022 TURN SUMMARY	836	990	1826	2179	2574	4753	460	364	824	2194	1741	3935
CONTROL LINK VOLUMES	891	1089	1980	2390	2920	5310	545	445	990	2574	2106	4680
2032 TURN SUMMARY	911	1089	2000	2468	2920	5388	558	445	1003	2623	2106	4729
CONTROL LINK VOLUMES	1004	1226	2230	2673	3267	5940	634	516	1150	2970	2430	5400
2042 TURN SUMMARY	1024	1226	2250	2755	3267	6022	647	516	1163	3013	2430	5443
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	703	617	1320	1989	1951	3940	348	342	690	1517	1653	3170
2013 TURN SUMMARY	704	617	1321	1991	1951	3942	348	342	690	1519	1653	3172
CONTROL LINK VOLUMES	990	810	1800	2574	2106	4680	365	445	810	1742	2128	3870
2022 TURN SUMMARY	956	810	1766	2504	2106	4610	352	445	797	1677	2128	3805
CONTROL LINK VOLUMES	1089	891	1980	2921	2389	5310	446	544	990	2106	2574	4680
2032 TURN SUMMARY	1058	891	1949	2875	2389	5264	433	544	977	2032	2574	4606
CONTROL LINK VOLUMES	1228	1002	2230	3267	2673	5940	518	632	1150	2430	2970	5400
2042 TURN SUMMARY	1196	1002	2198	3228	2673	5901	504	632	1136	2348	2970	5318

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 421 and Clyde Morris Blvd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT	AM D Factor	
Actual AADT:	2013	19,000	28,500	9,000	36,000	EB	58%
Actual AADT:	2022	21,000	32,000	10,000	40,000	WB	42%
Actual AADT:	2032	23,000	37,000	12,000	45,000	NB	65%
Actual AADT:	2042	25,000	41,000	13,000	50,000	SB	35%
Model Volume:							

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		19,000		28,500		9,000		36,000
NO. YEARS	2022		21,000		32,000		10,000		40,000
NO. YEARS	2032		23,000		37,000		12,000		45,000
NO. YEARS	2042		25,000		41,000		13,000		50,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	19,000			28,500			9,000			36,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
36,000	9,000	28,500	19,000	36,000	9,000	28,500	19,000	36,000	9,000	28,500	19,000	
49%	12%	39%	30%	56%	14%	34%	23%	43%	16%	50%	34%	
2022 2-WAY ADT	21,000			32,000			10,000			40,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
40,000	10,000	32,000	21,000	40,000	10,000	32,000	21,000	40,000	10,000	32,000	21,000	
49%	12%	39%	30%	56%	14%	34%	23%	43%	16%	51%	33%	
2032 2-WAY ADT	23,000			37,000			12,000			45,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
45,000	12,000	37,000	23,000	45,000	12,000	37,000	23,000	45,000	12,000	37,000	23,000	
48%	13%	39%	29%	56%	15%	35%	22%	43%	17%	51%	32%	
2042 2-WAY ADT	25,000			41,000			13,000			50,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
50,000	13,000	41,000	25,000	50,000	13,000	41,000	25,000	50,000	13,000	41,000	25,000	
48%	13%	39%	28%	57%	15%	35%	22%	43%	16%	52%	32%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	1,282			2,857			1,041			3,218			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	170	189	169	173	910	71	71	308	270	132	1,463	273	4,199
% TURNS:	32%	36%	32%	15%	79%	6%	11%	47%	42%	7%	78%	15%	
P.M. 2-Way Pk Hr Vol:	1,770			2,970			1,030			3,392			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	322	325	283	235	1,296	7	56	283	281	78	1,093	322	4,581
% TURNS:	35%	35%	30%	15%	84%	0%	9%	46%	45%	5%	73%	22%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	32%	36%	32%	15%	79%	6%	11%	47%	42%	7%	78%	15%
2022	34%	33%	33%	16%	77%	7%	13%	45%	42%	8%	76%	16%
2032	34%	33%	33%	17%	76%	7%	14%	44%	42%	8%	75%	17%
2042	35%	32%	33%	17%	75%	8%	15%	43%	42%	9%	74%	17%
P.M.												
2013	35%	35%	30%	15%	84%	0%	9%	46%	45%	5%	73%	22%
2022	36%	33%	31%	17%	81%	2%	12%	43%	45%	6%	71%	23%
2032	36%	32%	32%	17%	81%	2%	12%	43%	45%	7%	70%	23%
2042	37%	31%	32%	17%	80%	3%	13%	42%	45%	7%	70%	23%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 421 and Clyde Morris Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	19,000	28,500	9,000	36,000
24 HR EST. AADT	2022	21,000	32,000	10,000	40,000
24 HR EST. AADT	2032	23,000	37,000	12,000	45,000
24 HR EST. AADT	2042	25,000	41,000	13,000	50,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	6.7%	9.3%	10.0%	10.4%	11.6%	11.4%	8.9%	9.4%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.4%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.4%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	11.0%	11.0%	9.0%	9.4%
2013	APPROACH D FACTOR	41.2%	52.5%	40.4%	51.8%	62.3%	60.2%	58.0%	44.0%
2022	Approach D Factor	35.0%	52.0%	42.0%	58.0%	65.0%	48.0%	58.0%	42.0%
2032	Approach D Factor	35.0%	52.0%	42.0%	58.0%	65.0%	48.0%	58.0%	42.0%
2042	Approach D Factor	35.0%	52.0%	42.0%	58.0%	65.0%	48.0%	58.0%	42.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	170	189	169	173	911	71	71	307	271	132	1,465	272
2022	EST. TURNS	293	190	198	262	938	56	63	394	281	139	1,410	572
2032	EST. TURNS	299	215	225	299	1,065	76	88	455	336	171	1,618	592
2042	EST. TURNS	335	221	248	329	1179	86	105	471	376	193	1,787	662

P.M. DESIGN HR. TURNS

2013	EST. TURNS	321	325	283	235	1295	7	56	283	281	78	1,093	322
2022	EST. TURNS	425	382	199	237	1469	32	62	314	312	158	971	454
2032	EST. TURNS	437	435	227	272	1,674	53	75	377	375	198	1,116	470
2042	EST. TURNS	498	446	251	299	1849	70	81	409	406	228	1,233	521

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	528	752	1280	1154	1706	2860	649	391	1040	1868	1352	3220
2013 TURN SUMMARY	528	752	1280	1154	1706	2860	649	391	1040	1869	1352	3221
CONTROL LINK VOLUMES	662	1228	1890	1210	1670	2880	715	385	1100	2088	1512	3600
2022 TURN SUMMARY	680	1228	1908	1256	1670	2926	737	385	1122	2121	1512	3633
CONTROL LINK VOLUMES	725	1345	2070	1399	1931	3330	858	462	1320	2349	1701	4050
2032 TURN SUMMARY	740	1345	2085	1440	1931	3371	879	462	1341	2380	1701	4081
CONTROL LINK VOLUMES	788	1462	2250	1550	2140	3690	930	500	1430	2610	1890	4500
2042 TURN SUMMARY	804	1462	2266	1594	2140	3734	952	500	1452	2643	1890	4533
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	930	840	1770	1538	1432	2970	620	410	1030	1493	1897	3390
2013 TURN SUMMARY	930	840	1770	1537	1432	2969	620	410	1030	1492	1897	3389
CONTROL LINK VOLUMES	983	907	1890	1670	1210	2880	528	572	1100	1579	2181	3760
2022 TURN SUMMARY	1006	1004	2010	1738	1232	2970	688	572	1260	1583	2206	3789
CONTROL LINK VOLUMES	1076	994	2070	1931	1399	3330	634	686	1320	1777	2453	4230
2032 TURN SUMMARY	1098	1119	2217	1999	1418	3417	827	686	1513	1784	2485	4269
CONTROL LINK VOLUMES	1170	1080	2250	2140	1550	3690	686	744	1430	1974	2726	4700
2042 TURN SUMMARY	1195	1230	2425	2218	1565	3783	896	744	1640	1982	2753	4735

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Williamson Blvd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT				
Actual AADT:	2013	4,900		18,300				20,500		EB	39%
Actual AADT:	2022	5,700		28,000				27,000		WB	61%
Actual AADT:	2032	6,700		38,000		19,000		34,000		NB	32%
Actual AADT:	2042	14,000		49,000		22,000		41,000		SB	68%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	9		4,900		18,300				20,500
NO. YEARS	19		5,700		28,000				27,000
NO. YEARS	29		6,700		38,000		19,000		34,000
			14,000		49,000		22,000		41,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	4,900			18,300			20			20,500		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
20,500	20	18,300	4,900	20,500	20	18,300	4,900	20,500	20	18,300	4,900	
53%	0%	47%	19%	81%	0%	42%	11%	47%	0%	79%	21%	
2022 2-WAY ADT	5,700			28,000			20			27,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
27,000	20	28,000	5,700	27,000	20	28,000	5,700	27,000	20	28,000	5,700	
49%	0%	51%	17%	83%	0%	46%	9%	44%	0%	83%	17%	
2032 2-WAY ADT	6,700			38,000			19,000			34,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
34,000	19,000	38,000	6,700	34,000	19,000	38,000	6,700	34,000	19,000	38,000	6,700	
37%	21%	42%	11%	57%	32%	48%	9%	43%	30%	60%	11%	
2042 2-WAY ADT	14,000			49,000			22,000			41,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
41,000	22,000	49,000	14,000	41,000	22,000	49,000	14,000	41,000	22,000	49,000	14,000	
37%	20%	44%	18%	53%	29%	47%	13%	39%	26%	58%	16%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	172			1,670			51			1,575			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL	
	28	88	22	827	46					686	32	1,734	
% TURNS:	24%	1%	75%	2%	92%	5%	33%	33%	33%	0%	95%	4%	
P.M. 2-Way Pk Hr Vol:	439			2,093			68			1,844			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	TOTAL	
	63	292	20	943	63					774	62	2,222	
% TURNS:	18%	0%	82%	2%	92%	6%	33%	33%	33%	0%	92%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	24%	1%	75%	2%	92%	5%	33%	33%	33%	0%	95%	4%
2022	26%	1%	73%	4%	91%	5%	35%	31%	34%	0%	94%	6%
2032	26%	3%	71%	4%	88%	8%	35%	30%	35%	4%	91%	5%
2042	26%	4%	70%	5%	86%	9%	36%	30%	34%	4%	89%	6%
P.M.												
2013	18%	0%	82%	2%	92%	6%	33%	33%	33%	0%	92%	7%
2022	21%	0%	79%	3%	91%	6%	35%	31%	34%	0%	92%	8%
2032	20%	3%	77%	3%	88%	9%	35%	30%	35%	4%	88%	8%
2042	21%	4%	76%	5%	85%	10%	36%	30%	34%	4%	87%	9%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Williamson Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	4,900	18,300		20,500
24 HR EST. AADT	2022	5,700	28,000		27,000
24 HR EST. AADT	2032	6,700	38,000	19,000	34,000
24 HR EST. AADT	2042	14,000	49,000	22,000	41,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	3.5%	9.0%	9.1%	11.4%	255.0%	340.0%	7.7%	9.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	68.0%	81.1%	53.6%	49.0%	5.9%	4.4%	45.7%	45.4%
2022	Approach D Factor	68.0%	81.0%	61.0%	39.0%	64.0%	36.0%	39.0%	61.0%
2032	Approach D Factor	68.0%	81.0%	61.0%	39.0%	64.0%	36.0%	39.0%	61.0%
2042	Approach D Factor	36.0%	64.0%	61.0%	39.0%	64.0%	36.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	28	1	88	21	832	45	1	1	1	1	686	31
2022	EST. TURNS	107	(0)	212	77	1375	-1	0	0	0	(0)	771	84
2032	EST. TURNS	98	42	200	20	1,331	422	330	146	438	152	804	24
2042	EST. TURNS	101	43	282	183	1817	528	360	496	333	142	1,078	128
2013	EST. TURNS	63	1	291	20	939	65	1	1	1	1	772	63
2022	EST. TURNS	83	(0)	289	20	865	-1	0	0	0	(0)	1,248	74
2032	EST. TURNS	89	84	334	8	817	581	287	68	287	430	1,465	36
2042	EST. TURNS	135	130	594	63	1068	707	298	225	236	431	1,798	166

LINK VOLUME CHECK

	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:												
CONTROL LINK VOLUMES	117	53	170	895	775	1670	3	47	50	719	861	1580
2013 TURN SUMMARY	117	53	170	898	775	1673	3	47	50	718	861	1579
CONTROL LINK VOLUMES	349	161	510	1537	983	2520	1	-1	0	948	1482	2430
2022 TURN SUMMARY	319	161	480	1451	983	2434	1	-1	0	854	1482	2336
CONTROL LINK VOLUMES	410	190	600	2086	1334	3420	1094	616	1710	1193	1867	3060
2032 TURN SUMMARY	340	190	530	1773	1334	3107	914	616	1530	979	1867	2846
CONTROL LINK VOLUMES	454	806	1260	2690	1720	4410	1267	713	1980	1439	2251	3690
2042 TURN SUMMARY	426	806	1232	2528	1720	4248	1189	713	1902	1348	2251	3599
DESIGN HOUR P.M.:												
CONTROL LINK VOLUMES	356	84	440	1026	1064	2090	3	67	70	837	1003	1840
2013 TURN SUMMARY	355	84	439	1024	1064	2088	3	67	70	835	1003	1838
CONTROL LINK VOLUMES	416	94	510	983	1537	2520	1	-1	0	1482	948	2430
2022 TURN SUMMARY	372	94	466	884	1537	2421	1	-1	0	1322	948	2270
CONTROL LINK VOLUMES	488	112	600	1334	2086	3420	616	1094	1710	1867	1193	3060
2032 TURN SUMMARY	506	112	618	1406	2086	3492	642	1094	1736	1930	1193	3123
CONTROL LINK VOLUMES	806	454	1260	1720	2690	4410	713	1267	1980	2251	1439	3690
2042 TURN SUMMARY	858	454	1312	1838	2690	4528	759	1267	2026	2395	1439	3834

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Tomoka Farms Rd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AA	DT	AA	DT	AA	DT	AA	DT		
Actual AADT:	2013	5,260		15,700		9,000		12,200		EB	39%
Actual AADT:	2022	7,700		23,000		14,000		17,000		WB	61%
Actual AADT:	2032	10,000		32,000		20,000		23,000		NB	55%
Actual AADT:	2042	13,000		40,000		26,000		29,000		SB	45%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AA	DT	FACTOR	AA	DT	FACTOR	AA	DT
NO. YEARS	2013		5,260		15,700		9,000		12,200	
9	2022		7,700		23,000		14,000		17,000	
19	2032		10,000		32,000		20,000		23,000	
29	2042		13,000		40,000		26,000		29,000	

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	5,260			15,700			9,000			12,200		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
12,200	9,000	15,700	5,260	12,200	9,000	15,700	5,260	12,200	9,000	15,700	5,260	
33%	24%	43%	20%	46%	34%	47%	16%	37%	30%	52%	18%	
2022 2-WAY ADT	7,700			23,000			14,000			17,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
17,000	14,000	23,000	7,700	17,000	14,000	23,000	7,700	17,000	14,000	23,000	7,700	
31%	26%	43%	20%	44%	36%	48%	16%	36%	31%	51%	17%	
2032 2-WAY ADT	10,000			32,000			20,000			23,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
23,000	20,000	32,000	10,000	23,000	20,000	32,000	10,000	23,000	20,000	32,000	10,000	
31%	27%	43%	19%	43%	38%	49%	15%	35%	32%	52%	16%	
2042 2-WAY ADT	13,000			40,000			26,000			29,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
29,000	26,000	40,000	13,000	29,000	26,000	40,000	13,000	29,000	26,000	40,000	13,000	
31%	27%	42%	19%	43%	38%	49%	16%	35%	33%	51%	16%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	478			1,202			829			881			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	16	145	20	18	433	155	223	253	38	15	353	26	1,695
% TURNS:	9%	80%	11%	3%	71%	26%	43%	49%	7%	4%	90%	7%	
P.M. 2-Way Pk Hr Vol:	507			1,459			948			1,028			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	22	247	18	27	409	256	240	155	30	20	509	38	1,971
% TURNS:	8%	86%	6%	4%	59%	37%	56%	36%	7%	4%	90%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	9%	80%	11%	3%	71%	26%	43%	49%	7%	4%	90%	7%
2022	11%	75%	14%	5%	69%	27%	44%	46%	10%	7%	86%	8%
2032	12%	73%	15%	5%	68%	27%	44%	45%	11%	7%	85%	8%
2042	12%	71%	16%	6%	67%	28%	44%	44%	12%	9%	83%	8%
P.M.												
2013	8%	86%	6%	4%	59%	37%	56%	36%	7%	4%	90%	7%
2022	10%	80%	10%	6%	58%	37%	56%	34%	10%	6%	86%	8%
2032	11%	79%	11%	6%	57%	37%	56%	34%	11%	7%	85%	8%
2042	11%	76%	12%	6%	56%	37%	55%	33%	12%	8%	83%	8%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Tomoka Farms Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	5,260	15,700	9,000	12,200
24 HR EST. AADT	2022	7,700	23,000	14,000	17,000
24 HR EST. AADT	2032	10,000	32,000	20,000	23,000
24 HR EST. AADT	2042	13,000	40,000	26,000	29,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	9.1%	9.6%	7.7%	9.3%	9.2%	10.5%	7.2%	8.4%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	37.9%	56.6%	50.4%	47.4%	62.0%	44.8%	44.7%	55.2%
2022	Approach D Factor	45.0%	55.0%	61.0%	39.0%	55.0%	45.0%	39.0%	61.0%
2032	Approach D Factor	45.0%	55.0%	61.0%	39.0%	55.0%	45.0%	39.0%	61.0%
2042	Approach D Factor	45.0%	55.0%	61.0%	39.0%	55.0%	45.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	16	145	20	18	432	156	222	255	38	15	353	26
2022	EST. TURNS	34	219	40	50	828	310	288	287	72	38	478	41
2032	EST. TURNS	42	283	53	68	1,111	467	432	377	109	60	638	50
2042	EST. TURNS	60	362	72	95	1369	598	551	480	162	93	781	68

P.M. DESIGN HR. TURNS

2013	EST. TURNS	22	248	18	27	411	257	240	157	30	20	510	39
2022	EST. TURNS	41	321	43	45	497	314	352	194	59	59	868	70
2032	EST. TURNS	51	420	59	61	666	474	524	257	89	96	1,174	88
2042	EST. TURNS	72	534	84	83	816	604	672	326	130	149	1,440	117

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		181	299	480	606	594	1200	514	316	830	394	486	880
2013	TURN SUMMARY	181	299	480	606	594	1200	514	316	830	394	486	880
CONTROL LINK VOLUMES		312	378	690	1263	807	2070	693	567	1260	597	933	1530
2022	TURN SUMMARY	293	378	671	1188	807	1995	647	567	1214	557	933	1490
CONTROL LINK VOLUMES		405	495	900	1757	1123	2880	990	810	1800	807	1263	2070
2032	TURN SUMMARY	379	495	874	1646	1123	2769	918	810	1728	748	1263	2011
CONTROL LINK VOLUMES		527	643	1170	2196	1404	3600	1287	1053	2340	1018	1592	2610
2042	TURN SUMMARY	494	643	1137	2063	1404	3467	1193	1053	2246	942	1592	2534
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		287	223	510	692	768	1460	425	525	950	567	463	1030
2013	TURN SUMMARY	288	223	511	695	768	1463	427	525	952	569	463	1032
CONTROL LINK VOLUMES		381	309	690	807	1263	2070	567	693	1260	933	597	1530
2022	TURN SUMMARY	404	309	713	856	1263	2119	605	693	1298	997	597	1594
CONTROL LINK VOLUMES		495	405	900	1123	1757	2880	810	990	1800	1263	807	2070
2032	TURN SUMMARY	530	405	935	1201	1757	2958	870	990	1860	1358	807	2165
CONTROL LINK VOLUMES		644	526	1170	1404	2196	3600	1053	1287	2340	1592	1018	2610
2042	TURN SUMMARY	690	526	1216	1503	2196	3699	1128	1287	2415	1706	1018	2724

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Sugar Mill Dr		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AAADT	AAADT	AAADT	AAADT	AAADT	AAADT	EB	WB	NB	SB
Actual AADT:	2013	2,760		30,000				30,000		39%	
Actual AADT:	2022	4,200		33,000				34,000		61%	
Actual AADT:	2032	5,800		37,000				39,000		43%	
Actual AADT:	2042	7,400		40,000				44,000		57%	
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT	FACTOR	AAADT
NO. YEARS	9		2,760		30,000				30,000
NO. YEARS	19		4,200		33,000				34,000
NO. YEARS	29		5,800		37,000				39,000
NO. YEARS	29		7,400		40,000				44,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	2,760			30,000			15			30,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
30,000	15	30,000	2,760	30,000	15	30,000	2,760	30,000	15	30,000	2,760	
50%	0%	50%	8%	92%	0%	48%	4%	48%	0%	89%	8%	
2022 2-WAY ADT	4,200			33,000			15			34,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
34,000	15	33,000	4,200	34,000	15	33,000	4,200	34,000	15	33,000	4,200	
51%	0%	49%	11%	89%	0%	46%	6%	48%	0%	89%	11%	
2032 2-WAY ADT	5,800			37,000			15			39,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
39,000	15	37,000	5,800	39,000	15	37,000	5,800	39,000	15	37,000	5,800	
51%	0%	49%	13%	87%	0%	45%	7%	48%	0%	86%	14%	
2042 2-WAY ADT	7,400			40,000			15			44,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
44,000	15	40,000	7,400	44,000	15	40,000	7,400	44,000	15	40,000	7,400	
52%	0%	48%	14%	86%	0%	44%	8%	48%	0%	84%	16%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	321			1,910			6			2,049			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	167		63	27	1,052					766	62		2,143
% TURNS:	72%	0%	27%	3%	97%	0%	33%	33%	33%	0%	92%	7%	
P.M. 2-Way Pk Hr Vol:	366			2,438			6			2,564			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
	100		54	65	1,030					1,287	145		2,687
% TURNS:	65%	1%	35%	6%	94%	0%	33%	33%	33%	0%	90%	10%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	72%	0%	27%	3%	97%	0%	33%	33%	33%	0%	92%	7%
2022	70%	0%	29%	3%	97%	0%	35%	31%	35%	0%	92%	8%
2032	70%	0%	30%	4%	96%	0%	35%	30%	35%	0%	92%	8%
2042	69%	0%	31%	4%	95%	0%	35%	29%	36%	0%	91%	9%
P.M.												
2013	65%	1%	35%	6%	94%	0%	33%	33%	33%	0%	90%	10%
2022	63%	1%	36%	6%	93%	0%	35%	31%	35%	0%	90%	10%
2032	63%	1%	37%	7%	93%	0%	35%	30%	35%	0%	89%	11%
2042	62%	1%	37%	7%	93%	0%	35%	29%	36%	0%	89%	11%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Sugar Mill Dr
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	2,760	30,000		30,000
24 HR EST. AADT	2022	4,200	33,000		34,000
24 HR EST. AADT	2032	5,800	37,000		39,000
24 HR EST. AADT	2042	7,400	40,000		44,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	11.6%	13.3%	6.4%	8.1%	40.0%	40.0%	6.8%	8.5%
2022	Standard K Factor	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	72.0%	42.3%	56.5%	45.0%	50.0%	50.0%	40.5%	55.9%
2022	Approach D Factor	57.0%	43.0%	61.0%	39.0%	43.0%	57.0%	39.0%	61.0%
2032	Approach D Factor	57.0%	43.0%	61.0%	39.0%	43.0%	57.0%	39.0%	61.0%
2042	Approach D Factor	57.0%	43.0%	61.0%	39.0%	43.0%	57.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	167	2	63	27	1053	2	1	1	1	2	766	61
2022	EST. TURNS	162	(0)	74	74	1705	0	0	0	0	(0)	1,084	107
2032	EST. TURNS	231	(0)	96	100	1,909	(0)	0	0	0	(0)	1,203	148
2042	EST. TURNS	315	(0)	107	119	2100	0	0	0	0	(0)	1,297	199

P.M. DESIGN HR. TURNS

2013	EST. TURNS	99	2	54	67	1027	2	1	1	1	2	1,289	147
2022	EST. TURNS	100	(0)	64	64	1092	0	0	0	0	(0)	1,748	153
2032	EST. TURNS	143	(0)	84	83	1,226	(0)	0	0	0	(0)	1,947	212
2042	EST. TURNS	197	(0)	94	95	1347	0	0	0	0	(0)	2,102	288

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	231	89	320	1080	830	1910	3	7	10	829	1221	2050
2013 TURN SUMMARY	231	89	320	1082	830	1912	3	7	10	830	1221	2051
CONTROL LINK VOLUMES	239	181	420	1812	1158	2970	1	-1	0	1193	1867	3060
2022 TURN SUMMARY	236	181	417	1778	1158	2936	1	-1	0	1190	1867	3057
CONTROL LINK VOLUMES	331	249	580	2031	1299	3330	1	-1	0	1369	2141	3510
2032 TURN SUMMARY	327	249	576	2009	1299	3308	1	-1	0	1350	2141	3491
CONTROL LINK VOLUMES	422	318	740	2196	1404	3600	1	-1	0	1544	2416	3960
2042 TURN SUMMARY	422	318	740	2219	1404	3623	1	-1	0	1495	2416	3911
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	155	215	370	1096	1344	2440	3	7	10	1433	1127	2560
2013 TURN SUMMARY	155	215	370	1096	1344	2440	3	7	10	1438	1127	2565
CONTROL LINK VOLUMES	163	217	380	1158	1812	2970	1	-1	0	1867	1193	3060
2022 TURN SUMMARY	164	217	381	1156	1812	2968	1	-1	0	1900	1193	3093
CONTROL LINK VOLUMES	224	296	520	1299	2031	3330	1	-1	0	2141	1369	3510
2032 TURN SUMMARY	226	296	522	1309	2031	3340	1	-1	0	2159	1369	3528
CONTROL LINK VOLUMES	286	384	670	1404	2196	3600	1	-1	0	2416	1544	3960
2042 TURN SUMMARY	290	384	674	1442	2196	3638	1	-1	0	2390	1544	3934

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and I-95 Ramps		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	10,800		30,000		6,800		18,300		EB	39%
Actual AADT:	2022	14,000		34,000		9,000		28,000		WB	61%
Actual AADT:	2032	17,500		39,000		11,600		38,000		NB	54%
Actual AADT:	2042	21,000		44,000		14,000		49,000		SB	46%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		10,800		30,000		6,800		18,300
9	2022		14,000		34,000		9,000		28,000
19	2032		17,500		39,000		11,600		38,000
29	2042		21,000		44,000		14,000		49,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	10,800			30,000			6,800			18,300		
RIGHT	18,300	6,800	30,000	10,800	18,300	6,800	30,000	10,800	18,300	6,800	30,000	10,800
33%	12%	54%	30%	51%	19%	51%	18%	31%	14%	63%	23%	
2022 2-WAY ADT	14,000			34,000			9,000			28,000		
RIGHT	28,000	9,000	34,000	14,000	28,000	9,000	34,000	14,000	28,000	9,000	34,000	14,000
39%	13%	48%	27%	55%	18%	45%	18%	37%	16%	60%	25%	
2032 2-WAY ADT	17,500			39,000			11,600			38,000		
RIGHT	38,000	11,600	39,000	17,500	38,000	11,600	39,000	17,500	38,000	11,600	39,000	17,500
43%	13%	44%	26%	57%	17%	41%	19%	40%	17%	57%	26%	
2042 2-WAY ADT	21,000			44,000			14,000			49,000		
RIGHT	49,000	14,000	44,000	21,000	49,000	14,000	44,000	21,000	49,000	14,000	44,000	21,000
46%	13%	41%	25%	58%	17%	39%	18%	43%	18%	56%	27%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	949			2,047			525			1,715			
RIGHT	64	207	555	577	87	52	254	130	569	121			2,618
% TURNS:	24%	0%	76%	46%	47%	7%	17%	0%	83%	16%	69%	15%	
P.M. 2-Way Pk Hr Vol:	1,131			2,562			614			2,155			
RIGHT	158	545	342	697	91	96	171	254	791	84			3,231
% TURNS:	22%	0%	77%	30%	62%	8%	36%	0%	64%	22%	70%	7%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	24%	0%	76%	46%	47%	7%	17%	0%	83%	16%	69%	15%
2022	25%	2%	73%	44%	48%	8%	20%	2%	78%	16%	68%	16%
2032	26%	2%	72%	43%	48%	8%	20%	3%	77%	16%	68%	16%
2042	27%	2%	70%	42%	49%	9%	21%	3%	76%	16%	67%	17%
P.M.												
2013	22%	0%	77%	30%	62%	8%	36%	0%	64%	22%	70%	7%
2022	24%	1%	74%	30%	61%	9%	37%	2%	61%	22%	69%	9%
2032	25%	2%	73%	30%	61%	9%	37%	3%	61%	22%	68%	10%
2042	26%	2%	71%	29%	61%	9%	36%	3%	60%	22%	68%	11%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and I-95 Ramps
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	10,800	30,000	6,800	18,300
24 HR EST. AADT	2022	14,000	34,000	9,000	28,000
24 HR EST. AADT	2032	17,500	39,000	11,600	38,000
24 HR EST. AADT	2042	21,000	44,000	14,000	49,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	8.8%	10.5%	6.8%	8.5%	7.7%	9.0%	9.4%	11.8%
2022	Standard K Factor	9.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	28.7%	62.2%	59.6%	44.1%	58.5%	43.6%	47.8%	52.4%
2022	Approach D Factor	46.0%	54.0%	61.0%	39.0%	54.0%	46.0%	39.0%	61.0%
2032	Approach D Factor	46.0%	54.0%	61.0%	39.0%	54.0%	46.0%	39.0%	61.0%
2042	Approach D Factor	46.0%	54.0%	61.0%	39.0%	54.0%	46.0%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	64	1	208	556	580	89	52	1	255	133	571	121
2022	EST. TURNS	146	10	415	576	1053	189	83	6	338	174	695	99
2032	EST. TURNS	269	16	438	654	1,330	184	74	9	488	275	857	192
2042	EST. TURNS	421	24	441	694	1642	179	69	14	627	377	1,034	313

P.M. DESIGN HR. TURNS

2013	EST. TURNS	159	1	543	341	700	89	95	1	172	252	792	84
2022	EST. TURNS	149	10	612	468	629	112	163	11	205	314	1,091	165
2032	EST. TURNS	262	16	657	496	768	103	156	17	304	440	1,328	292
2042	EST. TURNS	400	24	678	496	925	98	149	25	396	558	1,590	445

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	272	678	950	1219	831	2050	307	223	530	820	900	1720
2013 TURN SUMMARY	273	678	951	1225	831	2056	309	223	532	824	900	1724
CONTROL LINK VOLUMES	580	680	1260	1867	1193	3060	437	373	810	983	1537	2520
2022 TURN SUMMARY	570	680	1250	1818	1193	3011	427	373	800	968	1537	2505
CONTROL LINK VOLUMES	725	855	1580	2141	1369	3510	564	476	1040	1334	2086	3420
2032 TURN SUMMARY	723	855	1578	2168	1369	3537	571	476	1047	1324	2086	3410
CONTROL LINK VOLUMES	869	1021	1890	2416	1544	3960	680	580	1260	1720	2690	4410
2042 TURN SUMMARY	886	1021	1907	2516	1544	4060	709	580	1289	1725	2690	4415
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	704	426	1130	1130	1430	2560	268	342	610	1129	1031	2160
2013 TURN SUMMARY	703	426	1129	1130	1430	2560	268	342	610	1128	1031	2159
CONTROL LINK VOLUMES	756	644	1400	1193	1867	3060	373	437	810	1537	983	2520
2022 TURN SUMMARY	772	644	1416	1209	1867	3076	379	437	816	1571	983	2554
CONTROL LINK VOLUMES	945	805	1750	1369	2141	3510	480	560	1040	2086	1334	3420
2032 TURN SUMMARY	935	805	1740	1367	2141	3508	478	560	1038	2060	1334	3394
CONTROL LINK VOLUMES	1134	966	2100	1544	2416	3960	580	680	1260	2690	1720	4410
2042 TURN SUMMARY	1101	966	2067	1519	2416	3935	569	680	1249	2593	1720	4313

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	SR 44 and Airport Rd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	2,770		20,500				15,700		EB	39%
Actual AADT:	2022	3,700		27,000				23,000		WB	61%
Actual AADT:	2032	4,700		34,000				32,000		NB	52%
Actual AADT:	2042	5,700		41,000				40,000		SB	48%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		2,770		20,500		15		15,700
9	2022		3,700		27,000		15		23,000
19	2032		4,700		34,000		15		32,000
29	2042		5,700		41,000		15		40,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	2,770			20,500			15			15,700		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
15,700	15	20,500	2,770	15,700	15	20,500	2,770	15,700	15	20,500	2,770	
43%	0%	57%	15%	85%	0%	53%	7%	40%	0%	88%	12%	
2022 2-WAY ADT	3,700			27,000			15			23,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
23,000	15	27,000	3,700	23,000	15	27,000	3,700	23,000	15	27,000	3,700	
46%	0%	54%	14%	86%	0%	50%	7%	43%	0%	88%	12%	
2032 2-WAY ADT	4,700			34,000			15			32,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
32,000	15	34,000	4,700	32,000	15	34,000	4,700	32,000	15	34,000	4,700	
48%	0%	52%	13%	87%	0%	48%	7%	45%	0%	88%	12%	
2042 2-WAY ADT	5,700			41,000			15			40,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
40,000	15	41,000	5,700	40,000	15	41,000	5,700	40,000	15	41,000	5,700	
49%	0%	51%	12%	87%	0%	47%	7%	46%	0%	88%	12%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	400
P.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	400

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
2022	27%	45%	28%	24%	54%	23%	28%	46%	27%	23%	54%	24%
2032	28%	44%	28%	23%	55%	22%	28%	45%	28%	22%	55%	23%
2042	29%	42%	29%	23%	56%	21%	29%	43%	29%	21%	56%	23%
P.M.												
2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
2022	27%	45%	28%	24%	54%	23%	28%	46%	27%	23%	54%	24%
2032	28%	44%	28%	23%	55%	22%	28%	45%	28%	22%	55%	23%
2042	29%	42%	29%	23%	56%	21%	29%	43%	29%	21%	56%	23%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: SR 44 and Airport Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	2,770	20,500	15	15,700
24 HR EST. AADT	2022	3,700	27,000	15	23,000
24 HR EST. AADT	2032	4,700	34,000	15	32,000
24 HR EST. AADT	2042	5,700	41,000	15	40,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	7.2%	7.2%	1.0%	1.0%	1333.3%	1333.3%	1.3%	1.3%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
2022	Approach D Factor	47.6%	52.4%	61.0%	39.0%	52.4%	47.6%	39.0%	61.0%
2032	Approach D Factor	47.6%	52.4%	61.0%	39.0%	52.4%	47.6%	39.0%	61.0%
2042	Approach D Factor	47.6%	52.4%	61.0%	39.0%	52.4%	47.6%	39.0%	61.0%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	47	(0)	116	134	1216	-1	1	0	0	(0)	831	37
2032	EST. TURNS	86	(0)	115	147	1,670	(1)	0	0	0	(0)	1,077	72
2042	EST. TURNS	119	(0)	126	166	2077	-1	0	0	0	(0)	1,313	100

P.M. DESIGN HR. TURNS

2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	45	(0)	138	98	762	-1	1	0	0	(0)	1,343	57
2032	EST. TURNS	84	(0)	139	98	1,038	(0)	1	0	0	(0)	1,728	100
2042	EST. TURNS	116	(0)	152	107	1288	0	0	0	0	(0)	2,099	134

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	100	100	200	100	100	200	100	100	200	100	100	200
2013 TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES	159	171	330	1482	948	2430	1	-1	0	807	1263	2070
2022 TURN SUMMARY	163	171	334	1349	948	2297	1	-1	0	868	1263	2131
CONTROL LINK VOLUMES	201	219	420	1867	1193	3060	1	-1	0	1123	1757	2880
2032 TURN SUMMARY	201	219	420	1817	1193	3010	1	-1	0	1149	1757	2906
CONTROL LINK VOLUMES	244	266	510	2251	1439	3690	1	-1	0	1404	2196	3600
2042 TURN SUMMARY	244	266	510	2243	1439	3682	1	-1	0	1412	2196	3608
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	100	100	200	100	100	200	100	100	200	100	100	200
2013 TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES	174	156	330	948	1482	2430	1	-1	0	1263	807	2070
2022 TURN SUMMARY	183	156	339	860	1482	2342	1	-1	0	1400	807	2207
CONTROL LINK VOLUMES	222	198	420	1193	1867	3060	1	-1	0	1757	1123	2880
2032 TURN SUMMARY	223	198	421	1136	1867	3003	1	-1	0	1827	1123	2950
CONTROL LINK VOLUMES	269	241	510	1439	2251	3690	1	-1	0	2196	1404	3600
2042 TURN SUMMARY	268	241	509	1394	2251	3645	1	-1	0	2232	1404	3636

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Williamson Blvd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			2,830				2,830		EB	47%
Actual AADT:	2022	5,200		9,100				6,600		WB	53%
Actual AADT:	2032	9,700		16,000		14,000		11,000		NB	64%
Actual AADT:	2042	18,000		23,000				15,000		SB	36%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013				2,830				2,830
9	2022		5,200		9,100				6,600
19	2032		9,700		16,000				11,000
29	2042		18,000		23,000		14,000		15,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	1			2,830			20			2,830		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,830	20	2,830	1	2,830	20	2,830	1	2,830	20	2,830	1	
50%	0%	50%	0%	99%	1%	50%	0%	50%	1%	99%	0%	
2022 2-WAY ADT	5,200			9,100			20			6,600		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
6,600	20	9,100	5,200	6,600	20	9,100	5,200	6,600	20	9,100	5,200	
42%	0%	58%	44%	56%	0%	44%	25%	32%	0%	64%	36%	
2032 2-WAY ADT	9,700			16,000			20			11,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
11,000	20	16,000	9,700	11,000	20	16,000	9,700	11,000	20	16,000	9,700	
41%	0%	59%	47%	53%	0%	44%	26%	30%	0%	62%	38%	
2042 2-WAY ADT	18,000			23,000			14,000			15,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
15,000	14,000	23,000	18,000	15,000	14,000	23,000	18,000	15,000	14,000	23,000	18,000	
29%	27%	44%	38%	32%	30%	41%	32%	27%	25%	42%	33%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		400
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	
P.M. 2-Way Pk Hr Vol:	200			200			200			200			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT		400
% TURNS:	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
2022	27%	45%	28%	27%	51%	23%	27%	47%	26%	23%	51%	26%
2032	27%	44%	29%	28%	50%	22%	27%	47%	26%	22%	52%	27%
2042	26%	46%	28%	27%	47%	26%	28%	47%	25%	25%	49%	26%
P.M.												
2013	25%	50%	25%	25%	50%	25%	25%	50%	25%	25%	50%	25%
2022	27%	45%	28%	27%	51%	23%	27%	47%	26%	23%	51%	26%
2032	27%	44%	29%	28%	50%	22%	27%	47%	26%	22%	52%	27%
2042	26%	46%	28%	27%	47%	26%	28%	47%	25%	25%	49%	26%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Williamson Blvd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013		2,830		2,830
24 HR EST. AADT	2022	5,200	9,100		6,600
24 HR EST. AADT	2032	9,700	16,000		11,000
24 HR EST. AADT	2042	18,000	23,000	14,000	15,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	20000.0%	20000.0%	7.1%	7.1%	1000.0%	1000.0%	7.1%	7.1%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
2022	Approach D Factor	36.0%	64.0%	52.9%	47.1%	64.0%	36.0%	47.1%	52.9%
2032	Approach D Factor	36.0%	64.0%	52.9%	47.1%	64.0%	36.0%	47.1%	52.9%
2042	Approach D Factor	36.0%	64.0%	52.9%	47.1%	64.0%	36.0%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	52	(0)	142	222	258	0	0	1	0	(0)	245	79
2032	EST. TURNS	92	(0)	272	419	431	(0)	0	1	0	(0)	405	136
2042	EST. TURNS	127	179	289	455	460	198	289	405	128	77	396	177
P.M. DESIGN HR. TURNS													
2013	EST. TURNS	25	50	25	25	50	25	25	50	25	25	50	25
2022	EST. TURNS	69	(0)	199	122	207	0	0	0	0	(0)	234	48
2032	EST. TURNS	120	(0)	377	228	346	(0)	0	0	0	(0)	385	82
2042	EST. TURNS	170	400	449	282	390	280	196	174	75	126	450	127

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		100	100	200	100	100	200	100	100	200	100	100	200
2013	TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES		168	302	470	433	387	820	1	-1	0	280	310	590
2022	TURN SUMMARY	194	302	496	480	387	867	1	-1	0	324	310	634
CONTROL LINK VOLUMES		314	556	870	762	678	1440	1	-1	0	466	524	990
2032	TURN SUMMARY	364	556	920	850	678	1528	1	-1	0	542	524	1066
CONTROL LINK VOLUMES		583	1037	1620	1095	975	2070	806	454	1260	636	714	1350
2042	TURN SUMMARY	595	1037	1632	1113	975	2088	822	454	1276	650	714	1364
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		100	100	200	100	100	200	100	100	200	100	100	200
2013	TURN SUMMARY	100	100	200	100	100	200	100	100	200	100	100	200
CONTROL LINK VOLUMES		300	170	470	386	434	820	1	-1	0	314	276	590
2022	TURN SUMMARY	268	170	438	329	434	763	1	-1	0	282	276	558
CONTROL LINK VOLUMES		559	311	870	678	762	1440	1	-1	0	524	466	990
2032	TURN SUMMARY	496	311	807	574	762	1336	1	-1	0	467	466	933
CONTROL LINK VOLUMES		1037	583	1620	975	1095	2070	454	806	1260	714	636	1350
2042	TURN SUMMARY	1019	583	1602	952	1095	2047	446	806	1252	703	636	1339

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Turnbull Bay Rd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT	AM D Factor
Actual AADT:	2013	2,830	2,200	3,040		EB 47%
Actual AADT:	2022	9,100	3,900	7,100		WB 53%
Actual AADT:	2032	16,000	5,700	12,000		NB 47%
Actual AADT:	2042	23,000	7,600	16,000		SB 53%
Model Volume:						

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		2,830		2,200		3,040		
NO. YEARS	2022		9,100		3,900		7,100		
NO. YEARS	2032		16,000		5,700		12,000		
NO. YEARS	2042		23,000		7,600		16,000		

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG	FROM EAST LEG	FROM SOUTH LEG	FROM WEST LEG
2013 2-WAY ADT	2,830	2,200	3,040	20
RIGHT	THRU	LEFT	RIGHT	THRU
20	3,040	2,200	2,830	20
0%	58%	42%	56%	0%
2022 2-WAY ADT	9,100	3,900	7,100	20
RIGHT	THRU	LEFT	RIGHT	THRU
20	7,100	3,900	9,100	20
0%	64%	35%	56%	0%
2032 2-WAY ADT	16,000	5,700	12,000	20
RIGHT	THRU	LEFT	RIGHT	THRU
20	12,000	5,700	16,000	20
0%	68%	32%	57%	0%
2042 2-WAY ADT	23,000	7,600	16,000	20
RIGHT	THRU	LEFT	RIGHT	THRU
20	16,000	7,600	23,000	20
0%	68%	32%	59%	0%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)	FROM EAST LEG (Westbound)	FROM SOUTH LEG (Northbound)	FROM WEST LEG (Eastbound)	TOTAL
A.M. 2-Way Pk Hr Vol:	284	151	189	6	
RIGHT	THRU	LEFT	RIGHT	THRU	
	101	59	63	17	315
% TURNS:	1%	63%	37%	78%	1%
P.M. 2-Way Pk Hr Vol:	332	195	209	6	
RIGHT	THRU	LEFT	RIGHT	THRU	
	80	84	74	17	371
% TURNS:	1%	48%	51%	80%	1%

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	1%	63%	37%	78%	1%	21%	14%	84%	1%	33%	33%	33%
2022	1%	63%	37%	76%	1%	23%	16%	83%	1%	34%	32%	35%
2032	1%	63%	36%	75%	1%	24%	16%	83%	1%	34%	31%	35%
2042	1%	64%	36%	75%	1%	24%	16%	83%	1%	34%	30%	36%
P.M.												
2013	1%	48%	51%	80%	1%	18%	16%	83%	1%	33%	33%	33%
2022	1%	50%	49%	78%	1%	21%	18%	82%	1%	34%	32%	35%
2032	1%	51%	49%	78%	1%	22%	17%	82%	1%	34%	31%	35%
2042	1%	52%	48%	77%	1%	22%	18%	82%	1%	34%	30%	36%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Turnbull Bay Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	2,830	2,200	3,040	
24 HR EST. AADT	2022	9,100	3,900	7,100	
24 HR EST. AADT	2032	16,000	5,700	12,000	
24 HR EST. AADT	2042	23,000	7,600	16,000	

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	10.0%	11.7%	6.9%	8.9%	6.2%	6.9%	30.0%	30.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	56.7%	49.7%	53.6%	47.2%	37.0%	53.1%	50.0%	50.0%
2022	Approach D Factor	52.9%	47.1%	52.8%	47.2%	47.1%	52.9%	47.2%	52.8%
2032	Approach D Factor	52.9%	47.1%	52.8%	47.2%	47.1%	52.9%	47.2%	52.8%
2042	Approach D Factor	52.9%	47.1%	52.8%	47.2%	47.1%	52.9%	47.2%	52.8%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	2	101	58	61	2	18	10	57	2	1	1	1
2022	EST. TURNS	(0)	294	126	134	0	45	39	253	(0)	0	0	0
2032	EST. TURNS	(0)	520	195	216	(0)	51	44	462	0	0	0	0
2042	EST. TURNS	(0)	712	277	318	0	50	42	657	0	0	0	1

P.M. DESIGN HR. TURNS

2013	EST. TURNS	2	80	87	73	2	18	20	91	2	1	1	1
2022	EST. TURNS	(0)	259	139	129	0	43	44	305	0	0	0	0
2032	EST. TURNS	(0)	460	218	206	(0)	49	50	555	0	0	0	0
2042	EST. TURNS	(1)	630	308	304	0	47	49	791	0	0	0	1

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	161	119	280	81	69	150	70	120	190	3	7	10
2013 TURN SUMMARY	161	119	280	81	69	150	70	120	190	3	7	10
CONTROL LINK VOLUMES	433	387	820	185	165	350	301	339	640	1	-1	0
2022 TURN SUMMARY	419	387	806	179	165	344	291	339	630	1	-1	0
CONTROL LINK VOLUMES	762	678	1440	271	239	510	509	571	1080	1	-1	0
2032 TURN SUMMARY	714	678	1392	267	239	506	505	571	1076	1	-1	0
CONTROL LINK VOLUMES	1095	975	2070	361	319	680	678	762	1440	1	-1	0
2042 TURN SUMMARY	988	975	1963	367	319	686	699	762	1461	1	-1	0
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	165	165	330	92	108	200	111	99	210	3	7	10
2013 TURN SUMMARY	169	165	334	94	108	202	113	99	212	3	7	10
CONTROL LINK VOLUMES	386	434	820	166	184	350	338	302	640	1	-1	0
2022 TURN SUMMARY	398	434	832	171	184	355	349	302	651	1	-1	0
CONTROL LINK VOLUMES	678	762	1440	242	268	510	571	509	1080	1	-1	0
2032 TURN SUMMARY	678	762	1440	254	268	522	605	509	1114	1	-1	0
CONTROL LINK VOLUMES	975	1095	2070	323	357	680	762	678	1440	1	-1	0
2042 TURN SUMMARY	938	1095	2033	351	357	708	839	678	1517	1	-1	0

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Sugar Mill Dr		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG AADT	EAST LEG AADT	SOUTH LEG AADT	WEST LEG AADT	AM D Factor	
Actual AADT:	2013	3,300	4,710	2,760	3,040	EB	47%
Actual AADT:	2022	3,800	7,000	3,200	7,100	WB	53%
Actual AADT:	2032	4,300	9,500	3,600	12,000	NB	51%
Actual AADT:	2042	4,900	12,000	4,100	16,000	SB	49%
Model Volume:							

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	9		3,300		4,710		2,760		3,040
NO. YEARS	19		3,800		7,000		3,200		7,100
NO. YEARS	29		4,300		9,500		3,600		12,000
			4,900		12,000		4,100		16,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG	FROM EAST LEG	FROM SOUTH LEG	FROM WEST LEG
2013 2-WAY ADT	3,300	4,710	2,760	3,040
RIGHT	THRU	LEFT	RIGHT	THRU
3,040	2,760	4,710	3,300	3,040
29%	26%	45%	36%	33%
2022 2-WAY ADT	3,800	7,000	3,200	7,100
RIGHT	THRU	LEFT	RIGHT	THRU
7,100	3,200	7,000	3,800	7,100
41%	18%	40%	27%	50%
2032 2-WAY ADT	4,300	9,500	3,600	12,000
RIGHT	THRU	LEFT	RIGHT	THRU
12,000	3,600	9,500	4,300	12,000
48%	14%	38%	22%	60%
2042 2-WAY ADT	4,900	12,000	4,100	16,000
RIGHT	THRU	LEFT	RIGHT	THRU
16,000	4,100	12,000	4,900	16,000
50%	13%	37%	20%	64%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)	FROM EAST LEG (Westbound)	FROM SOUTH LEG (Northbound)	FROM WEST LEG (Eastbound)	TOTAL
A.M. 2-Way Pk Hr Vol:	244	159	288	209	
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	51	110	7	4	42
% TURNS:	30%	65%	4%	5%	52%
P.M. 2-Way Pk Hr Vol:	299	191	313	281	
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	51	89	13	10	35
% TURNS:	33%	58%	8%	14%	49%

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB	WB	NB	EB
A.M.	RIGHT	THRU	LEFT	RIGHT
2013	30%	65%	4%	5%
2022	31%	61%	8%	7%
2032	33%	59%	8%	7%
2042	34%	57%	10%	7%
P.M.	RIGHT	THRU	LEFT	RIGHT
2013	33%	58%	8%	14%
2022	34%	54%	12%	15%
2032	35%	53%	12%	15%
2042	36%	51%	13%	15%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Sugar Mill Dr
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	3,300	4,710	2,760	3,040
24 HR EST. AADT	2022	3,800	7,000	3,200	7,100
24 HR EST. AADT	2032	4,300	9,500	3,600	12,000
24 HR EST. AADT	2042	4,900	12,000	4,100	16,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	7.4%	9.1%	3.4%	4.1%	10.4%	11.3%	6.9%	9.2%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	11.0%	9.0%	9.0%
2013	APPROACH D FACTOR	68.9%	51.2%	50.9%	37.7%	43.8%	49.8%	35.9%	57.3%
2022	Approach D Factor	48.8%	51.2%	52.9%	47.1%	51.2%	48.8%	47.1%	52.9%
2032	Approach D Factor	48.8%	51.2%	52.9%	47.1%	51.2%	48.8%	47.1%	52.9%
2042	Approach D Factor	48.8%	51.2%	52.9%	47.1%	51.2%	48.8%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M. DESIGN HR. TURNS													
2013	EST. TURNS	51	111	7	4	42	35	35	49	42	18	37	20
2022	EST. TURNS	59	127	8	37	223	66	57	54	39	21	208	82
2032	EST. TURNS	66	143	9	26	373	62	47	44	77	44	338	131
2042	EST. TURNS	76	163	10	25	503	66	46	39	107	68	440	161
P.M. DESIGN HR. TURNS													
2013	EST. TURNS	51	88	13	10	35	26	40	81	33	40	64	56
2022	EST. TURNS	74	61	39	36	186	71	75	55	42	46	220	74
2032	EST. TURNS	116	53	30	29	313	67	66	47	80	87	361	117
2042	EST. TURNS	147	49	30	28	421	66	65	43	109	114	475	143

LINK VOLUME CHECK

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
DESIGN HOUR A.M.:													
CONTROL LINK VOLUMES		168	72	240	81	79	160	126	164	290	75	135	210
2013	TURN SUMMARY	168	72	240	81	79	160	126	164	290	75	135	210
CONTROL LINK VOLUMES		167	173	340	333	297	630	147	143	290	301	339	640
2022	TURN SUMMARY	194	173	367	326	272	599	150	214	364	311	321	632
CONTROL LINK VOLUMES		189	201	390	452	408	860	166	154	320	509	571	1080
2032	TURN SUMMARY	218	201	419	460	394	854	168	249	417	513	516	1029
CONTROL LINK VOLUMES		215	225	440	571	509	1080	189	181	370	678	762	1440
2042	TURN SUMMARY	249	225	474	594	496	1090	192	297	489	669	686	1355
DESIGN HOUR P.M.:													
CONTROL LINK VOLUMES		153	147	300	72	118	190	156	154	310	161	119	280
2013	TURN SUMMARY	152	147	299	71	118	189	155	154	309	160	119	279
CONTROL LINK VOLUMES		175	165	340	297	333	630	172	178	350	338	302	640
2022	TURN SUMMARY	174	165	339	294	333	627	172	178	350	339	302	641
CONTROL LINK VOLUMES		198	192	390	403	457	860	193	207	400	571	509	1080
2032	TURN SUMMARY	200	192	392	408	457	865	193	207	400	565	509	1074
CONTROL LINK VOLUMES		226	214	440	509	571	1080	220	230	450	762	678	1440
2042	TURN SUMMARY	227	214	441	515	571	1086	218	230	448	733	678	1411

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and I-95 Ramps		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013			2,830		3,800		2,830		EB	47%
Actual AADT:	2022	5,000		9,100		9,100		9,100		WB	53%
Actual AADT:	2032	10,800		16,000		8,200		16,000		NB	54%
Actual AADT:	2042	16,400		23,000		12,400		23,000		SB	46%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years

2 = Linear Growth Throughout All Years

3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013				2,830				2,830
9	2022		5,000		9,100		3,800		9,100
19	2032		10,800		16,000		8,200		16,000
29	2042		16,400		23,000		12,400		23,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG			FROM EAST LEG			FROM SOUTH LEG			FROM WEST LEG		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013 2-WAY ADT	20			2,830			20			2,830		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
2,830	20	2,830	20	2,830	20	2,830	20	2,830	20	2,830	20	
50%	0%	50%	1%	99%	1%	50%	0%	50%	1%	99%	1%	
2022 2-WAY ADT	5,000			9,100			3,800			9,100		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
9,100	3,800	9,100	5,000	9,100	3,800	9,100	5,000	9,100	3,800	9,100	5,000	
41%	17%	41%	28%	51%	21%	39%	22%	39%	21%	51%	28%	
2032 2-WAY ADT	10,800			16,000			8,200			16,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
16,000	8,200	16,000	10,800	16,000	8,200	16,000	10,800	16,000	8,200	16,000	10,800	
40%	20%	40%	31%	46%	23%	37%	25%	37%	23%	46%	31%	
2042 2-WAY ADT	16,400			23,000			12,400			23,000		
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
23,000	12,400	23,000	16,400	23,000	12,400	23,000	16,400	23,000	12,400	23,000	16,400	
39%	21%	39%	32%	44%	24%	37%	26%	37%	24%	44%	32%	

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)			FROM EAST LEG (Westbound)			FROM SOUTH LEG (Northbound)			FROM WEST LEG (Eastbound)			TOTAL
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	
A.M. 2-Way Pk Hr Vol:	158			229			158			259			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	23	402
	32		68	33	44	23	17		83	33	44	23	
% TURNS:	32%	1%	67%	33%	44%	23%	17%	1%	82%	33%	44%	23%	
P.M. 2-Way Pk Hr Vol:	158			229			158			259			
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	23	402
	32		68	33	44	23	17		83	33	44	23	
% TURNS:	32%	1%	67%	33%	44%	23%	17%	1%	82%	33%	44%	23%	

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	SB			WB			NB			EB		
	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	32%	1%	67%	33%	44%	23%	17%	1%	82%	33%	44%	23%
2022	33%	3%	65%	32%	45%	23%	19%	3%	78%	32%	45%	23%
2032	33%	3%	64%	33%	44%	23%	19%	4%	77%	32%	44%	24%
2042	33%	4%	63%	33%	44%	23%	20%	5%	75%	31%	44%	24%
P.M.												
2013	32%	1%	67%	33%	44%	23%	17%	1%	82%	33%	44%	23%
2022	33%	3%	65%	32%	45%	23%	19%	3%	78%	32%	45%	23%
2032	33%	3%	64%	33%	44%	23%	19%	4%	77%	32%	44%	24%
2042	33%	4%	63%	33%	44%	23%	20%	5%	75%	31%	44%	24%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and I-95 Ramps
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013		2,830		2,830
24 HR EST. AADT	2022	5,000	9,100	3,800	9,100
24 HR EST. AADT	2032	10,800	16,000	8,200	16,000
24 HR EST. AADT	2042	16,400	23,000	12,400	23,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	790.0%	790.0%	8.1%	8.1%	790.0%	790.0%	9.2%	9.2%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	63.9%	63.9%	43.7%	43.7%	63.9%	63.9%	38.6%	38.6%
2022	Approach D Factor	46.0%	54.0%	52.9%	47.1%	54.0%	46.0%	47.1%	52.9%
2032	Approach D Factor	46.0%	54.0%	52.9%	47.1%	54.0%	46.0%	47.1%	52.9%
2042	Approach D Factor	46.0%	54.0%	52.9%	47.1%	54.0%	46.0%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	32	1	69	34	44	24	17	1	84	34	44	24
2022	EST. TURNS	66	3	139	145	223	68	37	5	144	84	211	93
2032	EST. TURNS	143	13	295	303	318	146	81	20	301	181	303	199
2042	EST. TURNS	220	28	438	453	435	220	125	43	441	269	412	305

P.M. DESIGN HR. TURNS

2013	EST. TURNS	32	1	69	34	44	24	17	1	84	34	44	24
2022	EST. TURNS	73	4	165	115	195	72	33	4	119	106	236	88
2032	EST. TURNS	154	17	349	241	276	155	73	15	248	228	340	188
2042	EST. TURNS	236	37	519	362	375	232	113	33	363	338	463	289

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	101	59	160	100	130	230	101	59	160	100	160	260
2013 TURN SUMMARY	102	59	161	102	130	232	102	59	161	102	160	262
CONTROL LINK VOLUMES	207	243	450	433	387	820	185	155	340	386	434	820
2022 TURN SUMMARY	209	243	452	436	387	823	186	155	341	388	434	822
CONTROL LINK VOLUMES	447	523	970	762	678	1440	399	341	740	678	762	1440
2032 TURN SUMMARY	450	523	973	768	678	1446	402	341	743	683	762	1445
CONTROL LINK VOLUMES	679	801	1480	1095	975	2070	603	517	1120	975	1095	2070
2042 TURN SUMMARY	686	801	1487	1107	975	2082	609	517	1126	986	1095	2081
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	101	59	160	100	130	230	101	59	160	100	160	260
2013 TURN SUMMARY	102	59	161	102	130	232	102	59	161	102	160	262
CONTROL LINK VOLUMES	243	207	450	386	434	820	157	183	340	433	387	820
2022 TURN SUMMARY	242	207	449	383	434	817	156	183	339	430	387	817
CONTROL LINK VOLUMES	525	445	970	678	762	1440	339	401	740	762	678	1440
2032 TURN SUMMARY	521	445	966	672	762	1434	336	401	737	757	678	1435
CONTROL LINK VOLUMES	797	683	1480	975	1095	2070	513	607	1120	1095	975	2070
2042 TURN SUMMARY	792	683	1475	969	1095	2064	509	607	1116	1090	975	2065

Note: Boxed number indicates manual adjustment.

TMTOOL INPUT SHEET

Project Description:

SECTION NO:		PREPARED BY:	GMB
FM NO.:		FILE:	Version 1
PROJECT LIMITS:	I-95/Pioneer Trail	DATE:	3/11/2015
DESIGN YEAR:	2042		
INTERSECTION:	Pioneer Trail and Airport Rd		

NOTES:

Build Alternative

Historical AADTs:

	YEAR	NORTH LEG		EAST LEG		SOUTH LEG		WEST LEG		AM D Factor	
		AADT		AADT		AADT		AADT			
Actual AADT:	2013	6,040		2,830		3,320		3,670		EB	47%
Actual AADT:	2022	10,000		6,600		4,100		7,500		WB	53%
Actual AADT:	2032	15,000		11,000		4,900		12,000		NB	52%
Actual AADT:	2042	19,000		15,000		5,700		16,000		SB	48%
Model Volume:											

Growth Rates:

	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
Recommended Growth Rate:	NA	NA	NA	NA

Choose Methodology for Calculating Growth Factor on Each Leg (Input 1, 2 or 3)

1 = Compound Growth Throughout All Years
 2 = Linear Growth Throughout All Years
 3 = Blend of Compound Growth First Ten Years, Linear Growth Thereafter (Based Upon the Base Year AADT)

NA	NA	NA	NA
----	----	----	----

	YEAR	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT	FACTOR	AADT
NO. YEARS	2013		6,040		2,830		3,320		3,670
9	2022		10,000		6,600		4,100		7,500
19	2032		15,000		11,000		4,900		12,000
29	2042		19,000		15,000		5,700		16,000

Percent Turns Calculated From Base Year AADTs:

JKTURNS	FROM NORTH LEG	FROM EAST LEG	FROM SOUTH LEG	FROM WEST LEG
2013 2-WAY ADT	6,040	2,830	3,320	3,670
RIGHT	THRU	LEFT	RIGHT	THRU
3,670	3,320	2,830	6,040	3,670
37%	34%	29%	46%	28%
2022 2-WAY ADT	10,000	6,600	4,100	7,500
RIGHT	THRU	LEFT	RIGHT	THRU
7,500	4,100	6,600	10,000	7,500
41%	23%	36%	46%	35%
2032 2-WAY ADT	15,000	11,000	4,900	12,000
RIGHT	THRU	LEFT	RIGHT	THRU
12,000	4,900	11,000	15,000	12,000
43%	18%	39%	47%	38%
2042 2-WAY ADT	19,000	15,000	5,700	16,000
RIGHT	THRU	LEFT	RIGHT	THRU
16,000	5,700	15,000	19,000	16,000
44%	16%	41%	47%	39%

Percent Turns Calculated From Base Year TMCs:

TURN STUDY	FROM NORTH LEG (Southbound)	FROM EAST LEG (Westbound)	FROM SOUTH LEG (Northbound)	FROM WEST LEG (Eastbound)	TOTAL
A.M. 2-Way Pk Hr Vol:	528	324	281	401	
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	104	65	70	71	96
% TURNS:	44%	27%	29%	41%	55%
P.M. 2-Way Pk Hr Vol:	618	377	367	402	
RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
	87	151	86	75	74
% TURNS:	27%	47%	27%	45%	44%

Est. % Turns Calculated From Base Year AADTs & TMCs:

SUGGESTED STARTING POINTS	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
A.M.												
2013	44%	27%	29%	41%	55%	5%	10%	67%	23%	7%	38%	55%
2022	43%	27%	30%	41%	53%	6%	12%	64%	24%	8%	37%	54%
2032	43%	26%	31%	41%	53%	6%	13%	64%	24%	8%	38%	54%
2042	44%	25%	31%	42%	52%	6%	13%	62%	24%	8%	38%	54%
P.M.												
2013	27%	47%	27%	45%	44%	11%	15%	77%	9%	15%	44%	41%
2022	28%	44%	28%	45%	43%	12%	16%	73%	11%	15%	42%	42%
2032	29%	43%	28%	45%	43%	12%	17%	72%	11%	15%	43%	42%
2042	30%	41%	29%	45%	43%	12%	17%	70%	12%	15%	43%	42%

PROJECT MANAGER "TURNS" REPORT

DESIGN HOUR TURNS CALCULATIONS

SECTION NO:
 FM NO.:
 PROJECT LIMITS: I-95/Pioneer Trail
 DESIGN YEAR: 2042
 INTERSECTION: Pioneer Trail and Airport Rd
 PREPARED BY: GMB
 FILE: Version 1

DATE: 3/11/2015
 NOTES: Build Alternative

ESTIMATED TWO-WAY 24 HOUR AADT FOR EACH LEG OF THE INTERSECTION:

	YEAR	FROM NORTH	FROM EAST	FROM SOUTH	FROM WEST
24 HR EST. AADT	2013	6,040	2,830	3,320	3,670
24 HR EST. AADT	2022	10,000	6,600	4,100	7,500
24 HR EST. AADT	2032	15,000	11,000	4,900	12,000
24 HR EST. AADT	2042	19,000	15,000	5,700	16,000

K & D FACTORS:

		AM	PM	AM	PM	AM	PM	AM	PM
2013	APPROACH K FACTOR	8.7%	10.2%	11.4%	13.3%	8.5%	11.1%	10.9%	11.0%
2022	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2032	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2042	Standard K Factor	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
2013	APPROACH D FACTOR	45.3%	52.4%	54.0%	44.6%	70.1%	44.4%	38.9%	56.5%
2022	Approach D Factor	47.6%	52.4%	52.9%	47.1%	52.4%	47.6%	47.1%	52.9%
2032	Approach D Factor	47.6%	52.4%	52.9%	47.1%	52.4%	47.6%	47.1%	52.9%
2042	Approach D Factor	47.6%	52.4%	52.9%	47.1%	52.4%	47.6%	47.1%	52.9%

		NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
		RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT	RIGHT	THRU	LEFT
2013	EST. TURNS	105	64	69	71	95	8	19	132	44	11	57	87
2022	EST. TURNS	172	129	138	151	151	21	23	136	39	27	115	185
2032	EST. TURNS	270	150	237	256	255	27	31	159	47	32	198	292
2042	EST. TURNS	349	167	317	341	356	34	40	178	58	40	278	377

P.M. DESIGN HR. TURNS

2013	EST. TURNS	86	153	87	76	74	19	24	126	14	34	100	94
2022	EST. TURNS	176	142	141	128	127	18	24	129	20	33	145	171
2032	EST. TURNS	275	167	245	221	211	24	31	151	24	39	248	271
2042	EST. TURNS	354	188	329	296	293	30	40	167	31	48	345	350

LINK VOLUME CHECK

DESIGN HOUR A.M.:	NORTH LEG			EAST LEG			SOUTH LEG			WEST LEG		
	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	239	291	530	175	145	320	197	83	280	156	244	400
2013 TURN SUMMARY	238	291	529	174	145	319	196	83	279	155	244	399
CONTROL LINK VOLUMES	428	472	900	314	276	590	193	177	370	318	362	680
2022 TURN SUMMARY	439	472	911	323	276	599	198	177	375	327	362	689
CONTROL LINK VOLUMES	643	707	1350	524	466	990	231	209	440	509	571	1080
2032 TURN SUMMARY	657	707	1364	537	466	1003	237	209	446	522	571	1093
CONTROL LINK VOLUMES	814	896	1710	714	636	1350	269	241	510	678	762	1440
2042 TURN SUMMARY	833	896	1729	731	636	1367	276	241	517	695	762	1457
DESIGN HOUR P.M.:	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK	FROM	TO	LINK
CONTROL LINK VOLUMES	324	296	620	168	212	380	163	207	370	227	173	400
2013 TURN SUMMARY	326	296	622	169	212	381	164	207	371	229	173	402
CONTROL LINK VOLUMES	472	428	900	280	310	590	176	194	370	357	323	680
2022 TURN SUMMARY	459	428	887	274	310	584	173	194	367	349	323	672
CONTROL LINK VOLUMES	707	643	1350	466	524	990	210	230	440	571	509	1080
2032 TURN SUMMARY	687	643	1330	455	524	979	206	230	436	558	509	1067
CONTROL LINK VOLUMES	896	814	1710	636	714	1350	244	266	510	762	678	1440
2042 TURN SUMMARY	870	814	1684	620	714	1334	238	266	504	743	678	1421

Note: Boxed number indicates manual adjustment.

Appendix H
SR 421 Improvements - 2042 Analysis Worksheets

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 1
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	938	14	72	628	139	24	51	52	202	15	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1630	0
Flt Permitted	0.950			0.950			0.695			0.441		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1295	1863	1583	821	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167		79	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	153	987	15	76	661	146	25	54	55	213	16	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	18.2	91.6	91.6	11.8	85.2	85.2	16.3	10.9	10.9	26.1	18.3	
Actuated g/C Ratio	0.12	0.61	0.61	0.08	0.57	0.57	0.11	0.07	0.07	0.17	0.12	

Lanes, Volumes, Timings
 301: Summertrees Road & SR 421

Alternative 1
 Year 2042 AM Peak

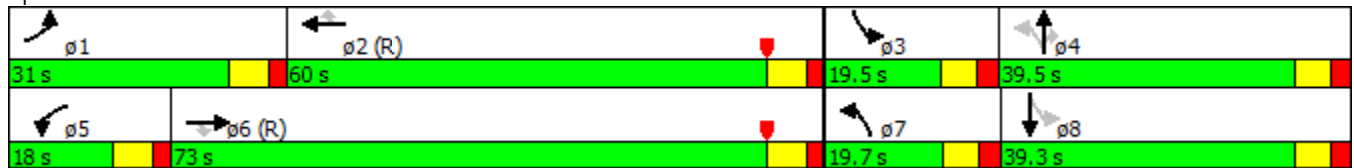


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.87	0.01	0.55	0.63	0.15	0.15	0.40	0.20	0.95	0.35	
Control Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
LOS	F	D	A	F	C	A	D	E	A	F	C	
Approach Delay		41.4			27.8			40.3			79.3	
Approach LOS		D			C			D			E	
Queue Length 50th (ft)	146	800	0	73	436	0	20	52	0	193	14	
Queue Length 95th (ft)	217	#1240	0	125	663	27	47	98	0	#337	73	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	289	1137	1013	152	1057	971	232	409	478	224	418	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.87	0.01	0.50	0.63	0.15	0.11	0.13	0.12	0.95	0.23	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 41.2
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 1
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔↔	↕↕	↔	↔↔	↕↕	↔↔	↔↔	↔↔	↕↔
Volume (vph)	331	766	140	632	539	1106	157	1607	1091	1113	746	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.977				0.850			0.850		0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				76			124		14	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	348	806	147	665	567	1164	165	1692	1148	1172	785	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	953	0	665	567	1164	165	1692	1148	1172	938	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	35.0	52.0		28.0	45.0	42.0	25.0	58.0	28.0	42.0	75.0	
Total Split (%)	19.4%	28.9%		15.6%	25.0%	23.3%	13.9%	32.2%	15.6%	23.3%	41.7%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	23.0	44.0		20.0	41.0	83.0	13.9	50.5	78.0	34.0	71.1	
Actuated g/C Ratio	0.13	0.24		0.11	0.23	0.46	0.08	0.28	0.43	0.19	0.40	

Lanes, Volumes, Timings
 302: Williamson Boulevard & SR 421

Alternative 1
 Year 2042 AM Peak

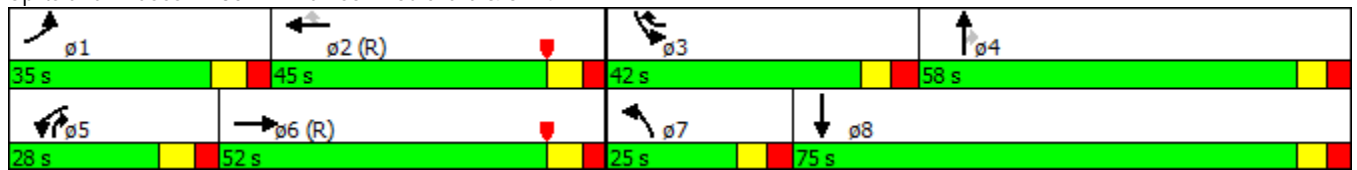


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.79	0.78		1.75	0.70	1.51	0.62	1.71	0.90	1.81	0.68	
Control Delay	89.5	67.2		384.5	77.2	262.2	90.7	358.7	52.4	407.1	47.9	
Queue Delay	0.0	52.7		0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	
Total Delay	89.5	119.9		384.5	77.2	262.2	90.7	358.7	56.2	407.1	47.9	
LOS	F	F		F	E	F	F	F	E	F	D	
Approach Delay		111.8			252.4			228.4			247.4	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	208	382		~610	306	~1898	99	~1538	654	~1068	477	
Queue Length 95th (ft)	263	438		#741	400	#2200	140	#1672	776	#1207	576	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)	280			460			205		590	690		
Base Capacity (vph)	514	1228		381	805	770	333	992	1277	648	1372	
Starvation Cap Reductn	0	0		0	0	3	0	0	0	0	0	
Spillback Cap Reductn	0	693		0	0	0	0	0	77	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.68	1.78		1.75	0.70	1.52	0.50	1.71	0.96	1.81	0.68	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 74 (41%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 222.3 Intersection LOS: F
 Intersection Capacity Utilization 141.9% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

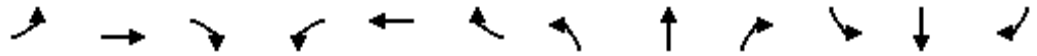
Alternative 1
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↔↔	↑↑					↔↔↔		↔↔
Volume (vph)	0	2630	340	277	1732	0	0	0	0	831	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	3		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.94	1.00	0.88
Ped Bike Factor												
Frt		0.983										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4999	0	3433	3539	0	0	0	0	4990	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	4999	0	3433	3539	0	0	0	0	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2768	358	292	1823	0	0	0	0	875	0	574
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3126	0	292	1823	0	0	0	0	875	0	574
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		109.0		22.0	131.0					49.0		49.0
Total Split (%)		60.6%		12.2%	72.8%					27.2%		27.2%
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None		None
Act Effect Green (s)		104.1		14.5	126.1					38.9		38.9
Actuated g/C Ratio		0.58		0.08	0.70					0.22		0.22

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 1
 Year 2042 AM Peak

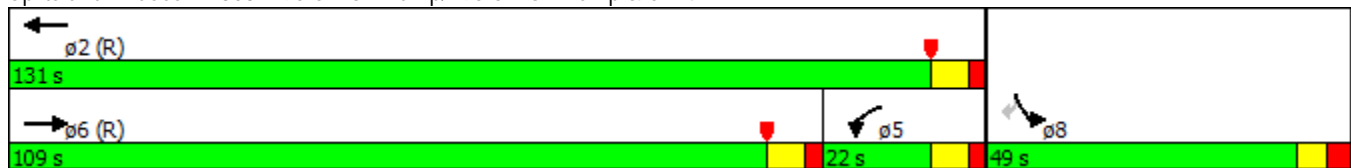


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.08		1.06	0.74					0.81		0.87
Control Delay		69.8		114.9	10.6					73.7		73.9
Queue Delay		10.1		0.0	0.8					7.8		1.5
Total Delay		79.8		114.9	11.4					81.5		75.5
LOS		E		F	B					F		E
Approach Delay		79.8			25.7							
Approach LOS		E			C							
Queue Length 50th (ft)		~1501		~194	257					346		327
Queue Length 95th (ft)		m827		m#262	m173					400		413
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)												310
Base Capacity (vph)		2901		276	2480					1150		698
Starvation Cap Reductn		521		0	343					0		0
Spillback Cap Reductn		0		0	174					238		37
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		1.31		1.06	0.85					0.96		0.87

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 119 (66%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 62.6 Intersection LOS: E
 Intersection Capacity Utilization 116.1% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 1
 Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑			↑↑↑	↖	↗		↖↗			
Volume (vph)	728	2733	0	0	1611	887	398	0	524	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Flt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						559			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	49.0	130.0			81.0	81.0	50.0		50.0			
Total Split (%)	27.2%	72.2%			45.0%	45.0%	27.8%		27.8%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	41.3	122.5			73.7	73.7	43.0		43.0			
Actuated g/C Ratio	0.23	0.68			0.41	0.41	0.24		0.24			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 1
 Year 2042 AM Peak

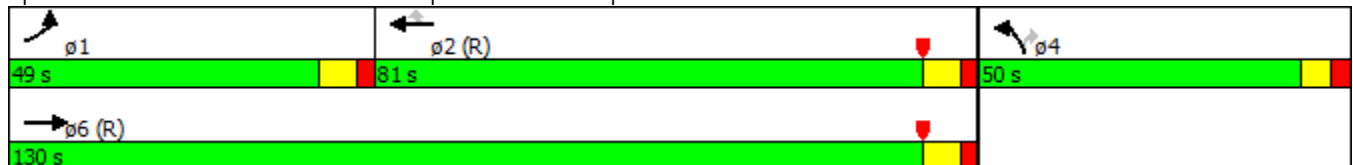


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.97	0.83			0.82	0.96	0.99		0.77			
Control Delay	85.2	12.4			36.6	28.3	108.6		63.1			
Queue Delay	17.8	32.4			1.4	43.2	0.0		0.2			
Total Delay	103.1	44.8			38.0	71.5	108.6		63.2			
LOS	F	D			D	E	F		E			
Approach Delay		57.1			49.9							
Approach LOS		E			D							
Queue Length 50th (ft)	482	491			473	323	500		306			
Queue Length 95th (ft)	m472	m465			584	#927	#737		389			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	791	3460			2080	978	422		721			
Starvation Cap Reductn	54	747			202	186	0		0			
Spillback Cap Reductn	0	764			0	0	0		10			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.04	1.07			0.90	1.18	0.99		0.78			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 109 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 57.9
 Intersection LOS: E
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 1
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	999	32	64	1074	72	22	20	31	84	48	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.206			0.638		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	384	1863	1583	1188	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			162
Link Speed (mph)		30			45			25				25
Link Distance (ft)		248			1468			287				321
Travel Time (s)		5.6			22.2			7.8				8.8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	51	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	320	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	16.0	84.5	84.5	13.5	82.0	82.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.7%	56.3%	56.3%	9.0%	54.7%	54.7%	8.3%	26.3%	26.3%	8.3%	26.3%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	9.5	93.4	93.4	7.0	90.9	90.9	24.0	20.0	20.0	26.2	22.6	
Actuated g/C Ratio	0.06	0.62	0.62	0.05	0.61	0.61	0.16	0.13	0.13	0.17	0.15	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 1
Year 2042 PM Peak

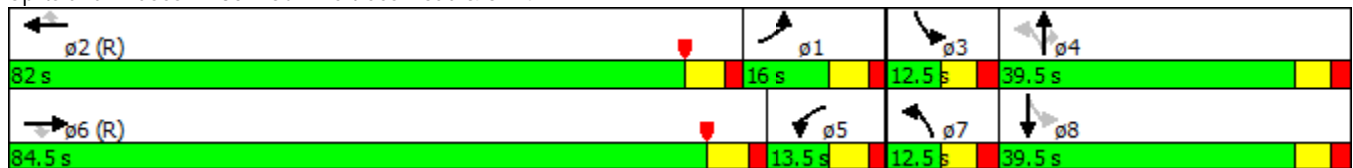


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.12	0.91	0.03	0.82	1.00	0.08	0.20	0.08	0.10	0.38	0.84	
Control Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
LOS	F	D	A	F	E	A	D	D	A	D	D	
Approach Delay		52.9			57.9			28.3			49.3	
Approach LOS		D			E			C			D	
Queue Length 50th (ft)	~142	915	0	66	~1198	0	18	18	0	71	159	
Queue Length 95th (ft)	#280	#1410	0	#160	#1604	5	40	41	0	111	257	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	112	1160	1031	82	1129	1006	116	409	441	233	484	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.13	0.91	0.03	0.82	1.00	0.08	0.20	0.05	0.07	0.38	0.66	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 53.9
 Intersection LOS: D
 Intersection Capacity Utilization 97.7%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 1
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↕↗↘		↗↘	↕↕	↗	↗↘	↕↕	↗↘	↗↘	↕↗↘	
Volume (vph)	125	833	156	984	1045	1062	137	687	610	1212	1532	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.976				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				76			173		10	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	132	877	164	1036	1100	1118	144	723	642	1276	1613	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	1041	0	1036	1100	1118	144	723	642	1276	1853	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	17.0	53.0		39.0	75.0	45.0	14.0	43.0	39.0	45.0	74.0	
Total Split (%)	9.4%	29.4%		21.7%	41.7%	25.0%	7.8%	23.9%	21.7%	25.0%	41.1%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	9.0	45.0		31.0	67.0	112.0	6.5	35.5	66.0	37.0	66.5	
Actuated g/C Ratio	0.05	0.25		0.17	0.37	0.62	0.04	0.20	0.37	0.21	0.37	

Lanes, Volumes, Timings
 302: Williamson Boulevard & SR 421

Alternative 1
 Year 2042 PM Peak

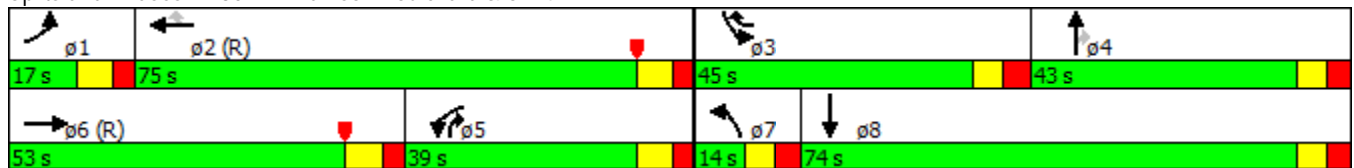


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.77	0.83		1.75	0.84	1.10	1.17	1.04	0.57	1.81	1.44	
Control Delay	111.6	69.3		380.7	59.5	78.1	203.1	112.1	18.4	406.7	241.3	
Queue Delay	0.0	0.0		0.0	33.7	0.6	0.0	0.0	4.0	0.0	0.0	
Total Delay	111.6	69.3		380.7	93.2	78.7	203.1	112.1	22.4	406.7	241.3	
LOS	F	E		F	F	E	F	F	C	F	F	
Approach Delay		74.1			179.8			82.6			308.8	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	80	423		~938	609	~1467	~103	~481	126	~1163	~1559	
Queue Length 95th (ft)	#137	482		m#882	m584	m#1057	#185	#617	164	#1301	#1689	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)	280			460			205		590	690		
Base Capacity (vph)	171	1255		591	1317	1013	123	697	1131	705	1289	
Starvation Cap Reductn	0	0		0	283	112	0	0	0	0	0	
Spillback Cap Reductn	0	2		0	0	0	0	0	394	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.77	0.83		1.75	1.06	1.24	1.17	1.04	0.87	1.81	1.44	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 91 (51%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 194.4 Intersection LOS: F
 Intersection Capacity Utilization 127.5% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 1
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑↑		↑↑
Volume (vph)	0	2326	329	512	2376	0	0	0	0	886	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	3		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.94	1.00	0.88
Ped Bike Factor												
Frt		0.981										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4989	0	3433	3539	0	0	0	0	4990	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	4989	0	3433	3539	0	0	0	0	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2448	346	539	2501	0	0	0	0	933	0	753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2794	0	539	2501	0	0	0	0	933	0	753
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		97.0		32.0	129.0					51.0		51.0
Total Split (%)		53.9%		17.8%	71.7%					28.3%		28.3%
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None		None
Act Effect Green (s)		89.5		24.5	121.5					43.5		43.5
Actuated g/C Ratio		0.50		0.14	0.68					0.24		0.24

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 1
 Year 2042 PM Peak

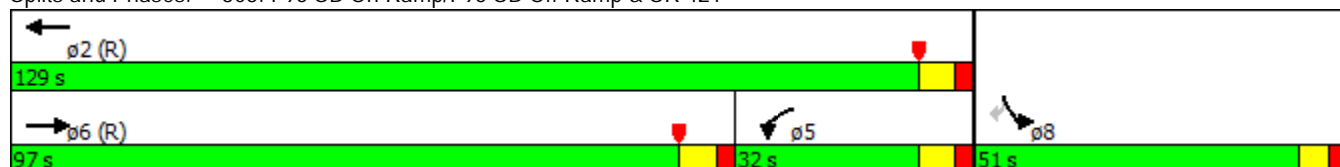


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.12		1.15	1.05					0.77		1.03
Control Delay		87.4		124.7	39.5					68.8		100.7
Queue Delay		0.4		0.0	5.4					0.0		26.1
Total Delay		87.8		124.7	44.9					68.8		126.7
LOS		F		F	D					E		F
Approach Delay		87.8			59.0							
Approach LOS		F			E							
Queue Length 50th (ft)		~1352		~384	~1673					368		~501
Queue Length 95th (ft)		m549		m#411	m#1662					423		#651
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)												310
Base Capacity (vph)		2490		467	2388					1205		728
Starvation Cap Reductn		424		0	0					0		0
Spillback Cap Reductn		6		0	30					0		171
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		1.35		1.15	1.06					0.77		1.35

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 77.7
 Intersection LOS: E
 Intersection Capacity Utilization 103.2%
 ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 1
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↑↑↑			↑↑↑	↗	↘		↗↘			
Volume (vph)	551	2661	0	0	2544	756	344	0	374	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Flt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						415			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	35.0	145.0			110.0	110.0	35.0		35.0			
Total Split (%)	19.4%	80.6%			61.1%	61.1%	19.4%		19.4%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	27.5	137.5			102.5	102.5	28.0		28.0			
Actuated g/C Ratio	0.15	0.76			0.57	0.57	0.16		0.16			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 1
 Year 2042 PM Peak



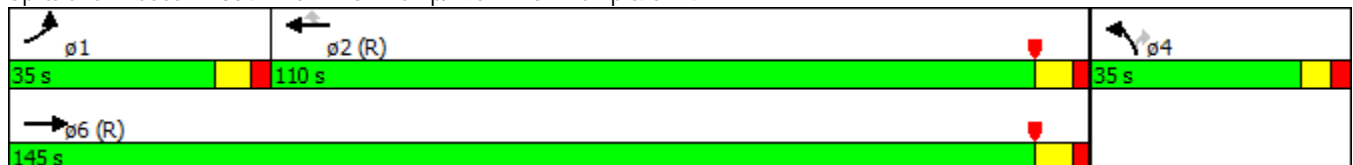
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.11	0.72			0.93	0.74	1.32		0.80			
Control Delay	130.5	5.5			21.0	4.3	220.3		72.1			
Queue Delay	0.0	23.1			19.5	5.1	0.7		0.0			
Total Delay	130.5	28.6			40.5	9.3	221.0		72.1			
LOS	F	C			D	A	F		E			
Approach Delay		46.0			33.3							
Approach LOS		D			C							
Queue Length 50th (ft)	~409	357			766	90	~549		213			
Queue Length 95th (ft)	m#386	m328			783	m91	#769		285			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	524	3884			2895	1080	275		495			
Starvation Cap Reductn	0	1199			315	219	0		0			
Spillback Cap Reductn	0	37			76	0	14		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.11	1.04			1.04	0.92	1.39		0.80			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 32 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.32
 Intersection Signal Delay: 49.9
 Intersection Capacity Utilization 103.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 2
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	476	938	14	72	628	139	24	51	52	202	15	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1602	0
Flt Permitted	0.950			0.950			0.385			0.444		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	717	1863	1583	827	1602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167		232	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	501	987	15	76	661	146	25	54	55	213	16	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	501	987	15	76	661	146	25	54	55	213	248	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	49.7	91.5	91.5	11.8	53.5	53.5	16.5	11.1	11.1	26.3	18.5	
Actuated g/C Ratio	0.33	0.61	0.61	0.08	0.36	0.36	0.11	0.07	0.07	0.18	0.12	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 2
Year 2042 AM Peak

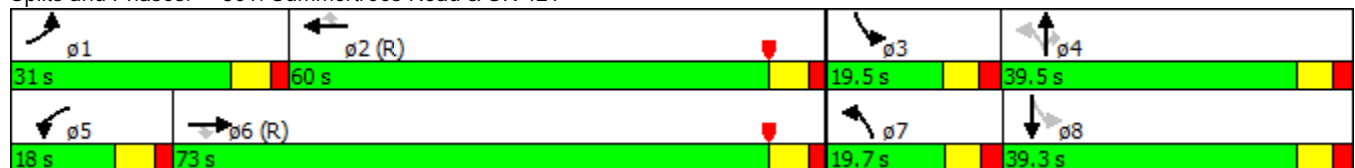


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.85	0.87	0.01	0.55	1.00	0.22	0.19	0.39	0.20	0.94	0.62	
Control Delay	62.8	36.1	0.0	80.6	81.5	3.6	51.5	74.4	1.7	103.4	16.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.8	36.1	0.0	80.6	81.5	3.6	51.5	74.4	1.7	103.4	16.6	
LOS	E	D	A	F	F	A	D	E	A	F	B	
Approach Delay		44.7			68.5			40.3			56.7	
Approach LOS		D			E			D			E	
Queue Length 50th (ft)	468	800	0	73	644	0	20	52	0	193	14	
Queue Length 95th (ft)	#725	#1250	0	125	#910	34	47	97	0	#329	105	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	586	1135	1011	152	664	672	199	409	478	226	531	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.85	0.87	0.01	0.50	1.00	0.22	0.13	0.13	0.12	0.94	0.47	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 53.4
 Intersection LOS: D
 Intersection Capacity Utilization 95.6%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 2
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↔↔	↑↑	↔	↔↔	↑↑	↔↔	↔↔	↑↑	
Volume (vph)	0	766	140	632	539	1106	157	1607	1091	1113	746	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	0		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor												
Frt		0.977				0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	4968	0	3433	3539	1583	3433	3539	2787	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	4968	0	3433	3539	1583	3433	3539	2787	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				27			124			
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	806	147	665	567	1164	165	1692	1148	1172	785	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	953	0	665	567	1164	165	1692	1148	1172	785	0
Turn Type		NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase		6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)		51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)		52.0		30.0	82.0	41.0	27.8	57.0	30.0	41.0	70.2	
Total Split (%)		28.9%		16.7%	45.6%	22.8%	15.4%	31.7%	16.7%	22.8%	39.0%	
Yellow Time (s)		5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)		3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag		Lag		Lead		Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode		C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)		44.0		22.0	74.0	115.0	14.0	49.5	79.0	33.0	69.0	
Actuated g/C Ratio		0.24		0.12	0.41	0.64	0.08	0.28	0.44	0.18	0.38	

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 2
Year 2042 AM Peak

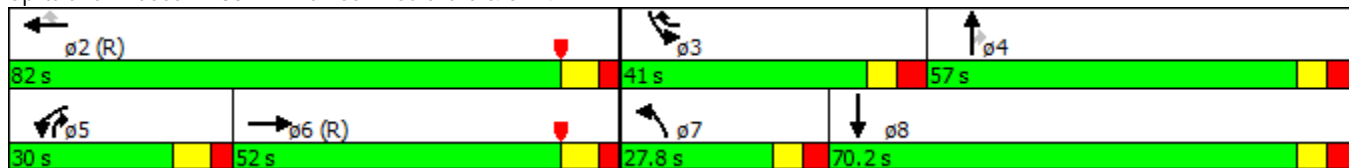


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.78		1.59	0.39	1.14	0.62	1.74	0.89	1.86		0.58
Control Delay		67.2		310.9	33.5	107.5	90.5	373.1	50.8	430.6		46.5
Queue Delay		0.0		0.0	0.0	0.8	0.0	0.0	6.8	18.8		0.0
Total Delay		67.2		310.9	33.5	108.3	90.5	373.1	57.7	449.4		46.5
LOS		E		F	C	F	F	F	E	F		D
Approach Delay		67.2			146.8			237.0				287.8
Approach LOS		E			F			F				F
Queue Length 50th (ft)		382		~575	278	~1606	99	~1551	647	~1080		387
Queue Length 95th (ft)		438		#707	321	#1863	139	#1685	768	#1219		474
Internal Link Dist (ft)		1388			572			722				781
Turn Bay Length (ft)				460			205		590	690		
Base Capacity (vph)		1228		419	1454	1021	387	973	1292	629		1357
Starvation Cap Reductn		0		0	0	144	0	0	0	0		0
Spillback Cap Reductn		3		0	0	0	0	0	117	490		0
Storage Cap Reductn		0		0	0	0	0	0	0	0		0
Reduced v/c Ratio		0.78		1.59	0.39	1.33	0.43	1.74	0.98	8.43		0.58

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.86
 Intersection Signal Delay: 203.5 Intersection LOS: F
 Intersection Capacity Utilization 138.0% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 2
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2630	340	277	1732	0	0	0	0	831	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Ped Bike Factor												
Frt		0.983										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4999	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	4999	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2768	358	292	1823	0	0	0	0	875	0	574
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3126	0	292	1823	0	0	0	0	875	0	574
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		109.0		22.0	131.0					49.0		49.0
Total Split (%)		60.6%		12.2%	72.8%					27.2%		27.2%
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None		None
Act Effect Green (s)		101.5		14.5	123.5					41.5		41.5
Actuated g/C Ratio		0.56		0.08	0.69					0.23		0.23

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 2
 Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.11		1.06	0.75					1.11		0.82
Control Delay		83.0		114.9	10.9					126.5		68.0
Queue Delay		0.6		0.0	1.1					1.0		0.2
Total Delay		83.6		114.9	12.0					127.5		68.2
LOS		F		F	B					F		E
Approach Delay		83.6			26.2							
Approach LOS		F			C							
Queue Length 50th (ft)		~1537		~194	257					-604		327
Queue Length 95th (ft)		m1073		m#262	m173					#741		413
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)												310
Base Capacity (vph)		2828		276	2428					791		698
Starvation Cap Reductn		674		0	343					0		0
Spillback Cap Reductn		0		0	344					119		7
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		1.45		1.06	0.87					1.30		0.83

Intersection Summary

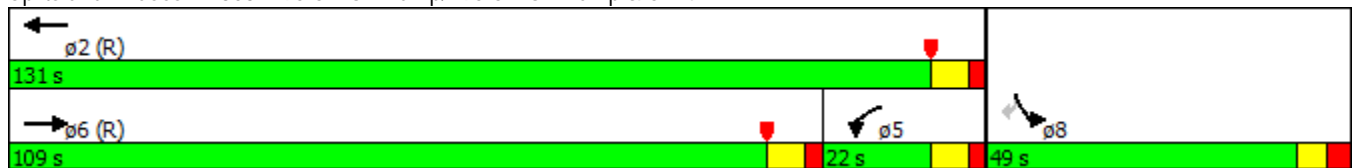
Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 119 (66%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 69.9
 Intersection Capacity Utilization 116.1%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service H

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 2
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔↔			↔↔↔	↔	↔		↔↔			
Volume (vph)	728	2733	0	0	1611	887	398	0	524	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Flt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						559			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	49.0	130.0			81.0	81.0	50.0		50.0			
Total Split (%)	27.2%	72.2%			45.0%	45.0%	27.8%		27.8%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	41.3	122.5			73.7	73.7	43.0		43.0			
Actuated g/C Ratio	0.23	0.68			0.41	0.41	0.24		0.24			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 2
 Year 2042 AM Peak

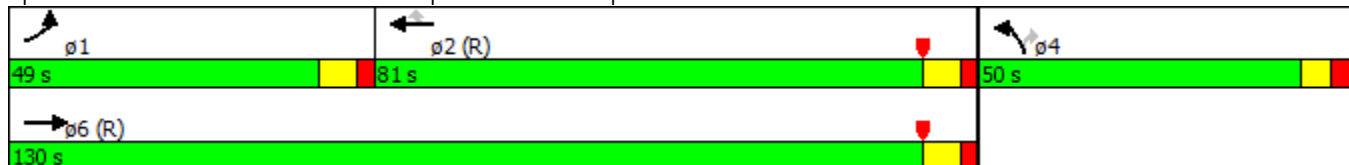


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.97	0.83			0.82	0.96	0.99		0.77			
Control Delay	86.1	11.4			36.6	28.3	108.6		63.1			
Queue Delay	17.8	32.4			1.4	43.2	0.0		0.2			
Total Delay	103.9	43.7			38.0	71.5	108.6		63.2			
LOS	F	D			D	E	F		E			
Approach Delay		56.4			49.9							
Approach LOS		E			D							
Queue Length 50th (ft)	482	491			473	323	500		306			
Queue Length 95th (ft)	m430	m406			584	#927	#737		389			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	791	3460			2080	978	422		721			
Starvation Cap Reductn	54	747			202	186	0		0			
Spillback Cap Reductn	0	764			0	0	0		10			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.04	1.07			0.90	1.18	0.99		0.78			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 109 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 57.6
 Intersection LOS: E
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 2
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	245	999	32	64	1074	72	22	20	31	84	48	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1609	0
Flt Permitted	0.950			0.950			0.207			0.556		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	386	1863	1583	1036	1609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167			273
Link Speed (mph)		30			45			25				25
Link Distance (ft)		248			1468			287				321
Travel Time (s)		5.6			22.2			7.8				8.8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	258	1052	34	67	1131	76	23	21	33	88	51	509
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	1052	34	67	1131	76	23	21	33	88	560	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	41.0	81.0	81.0	29.0	69.0	69.0	15.0	25.0	25.0	15.0	25.0	
Total Split (%)	27.3%	54.0%	54.0%	19.3%	46.0%	46.0%	10.0%	16.7%	16.7%	10.0%	16.7%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	26.9	77.1	77.1	15.0	62.5	62.5	25.1	20.0	20.0	39.0	32.5	
Actuated g/C Ratio	0.18	0.51	0.51	0.10	0.42	0.42	0.17	0.13	0.13	0.26	0.22	

Lanes, Volumes, Timings
 301: Summertrees Road & SR 421

Alternative 2
 Year 2042 PM Peak

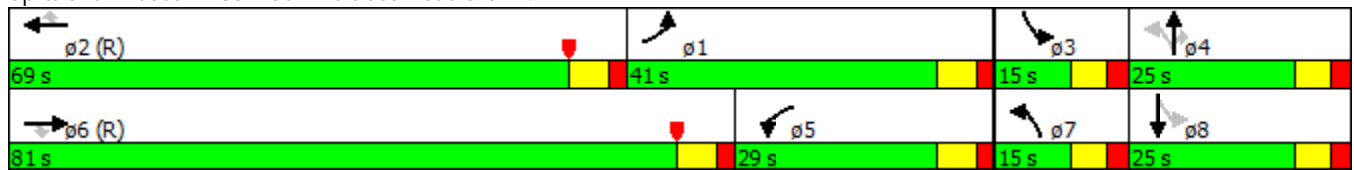


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	1.10	0.04	0.38	1.46	0.10	0.18	0.08	0.09	0.25	1.00	
Control Delay	78.6	95.0	0.1	67.4	246.5	0.3	46.8	57.9	0.5	46.3	66.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.6	95.0	0.1	67.4	246.5	0.3	46.8	57.9	0.5	46.3	66.2	
LOS	E	F	A	E	F	A	D	E	A	D	E	
Approach Delay		89.5			222.4			30.0			63.5	
Approach LOS		F			F			C			E	
Queue Length 50th (ft)	245	~1196	0	62	~1507	0	17	18	0	66	~381	
Queue Length 95th (ft)	330	#1459	0	109	#1773	0	44	47	0	124	#684	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	407	957	872	265	776	757	146	269	371	357	562	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.63	1.10	0.04	0.25	1.46	0.10	0.16	0.08	0.09	0.25	1.00	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 133.7
 Intersection LOS: F
 Intersection Capacity Utilization 118.8%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 2
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↔↔	↑↑	↔	↔↔	↑↑	↔↔	↔↔	↑↑	
Volume (vph)	0	833	156	984	1045	1062	137	687	610	1212	1532	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	0		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor												
Frt		0.976				0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	4963	0	3433	3539	1583	3433	3539	2787	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	4963	0	3433	3539	1583	3433	3539	2787	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				27			124			
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	877	164	1036	1100	1118	144	723	642	1276	1613	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1041	0	1036	1100	1118	144	723	642	1276	1613	0
Turn Type		NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase		6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)		51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)		52.0		44.0	96.0	46.0	18.0	38.0	44.0	46.0	66.0	
Total Split (%)		28.9%		24.4%	53.3%	25.6%	10.0%	21.1%	24.4%	25.6%	36.7%	
Yellow Time (s)		5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)		3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag		Lead		Lag		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode		C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)		44.0		36.0	88.0	134.0	10.3	30.5	66.0	38.0	58.7	
Actuated g/C Ratio		0.24		0.20	0.49	0.74	0.06	0.17	0.37	0.21	0.33	

Lanes, Volumes, Timings
 302: Williamson Boulevard & SR 421

Alternative 2
 Year 2042 PM Peak

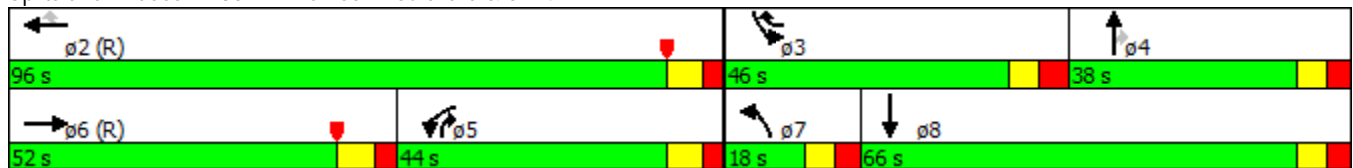


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.85		1.51	0.64	0.94	0.73	1.21	0.58	1.76	1.40	
Control Delay		71.2		271.2	26.2	22.4	104.7	167.8	20.6	386.3	227.7	
Queue Delay		0.1		0.0	4.9	44.6	0.0	0.0	29.5	2.5	0.0	
Total Delay		71.2		271.2	31.1	67.0	104.7	167.8	50.1	388.8	227.7	
LOS		E		F	C	E	F	F	D	F	F	
Approach Delay		71.2			119.9			111.7			298.8	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)		427		~876	446	1050	88	~544	139	~1151	~1335	
Queue Length 95th (ft)		486		m#820	m417	m842	#137	#681	176	#1289	#1469	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)				460			205		590	690		
Base Capacity (vph)		1228		686	1730	1185	200	599	1100	724	1154	
Starvation Cap Reductn		0		0	551	263	0	0	0	0	0	
Spillback Cap Reductn		5		0	0	0	0	0	481	214	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.85		1.51	0.93	1.21	0.72	1.21	1.04	2.50	1.40	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.76
 Intersection Signal Delay: 172.1 Intersection LOS: F
 Intersection Capacity Utilization 127.5% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 2
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2326	329	512	2376	0	0	0	0	886	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Ped Bike Factor												
Frt		0.981										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4989	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	4989	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2448	346	539	2501	0	0	0	0	933	0	753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2794	0	539	2501	0	0	0	0	933	0	753
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		97.0		32.0	129.0					51.0		51.0
Total Split (%)		53.9%		17.8%	71.7%					28.3%		28.3%
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None		None
Act Effect Green (s)		89.5		24.5	121.5					43.5		43.5
Actuated g/C Ratio		0.50		0.14	0.68					0.24		0.24

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 2
 Year 2042 PM Peak

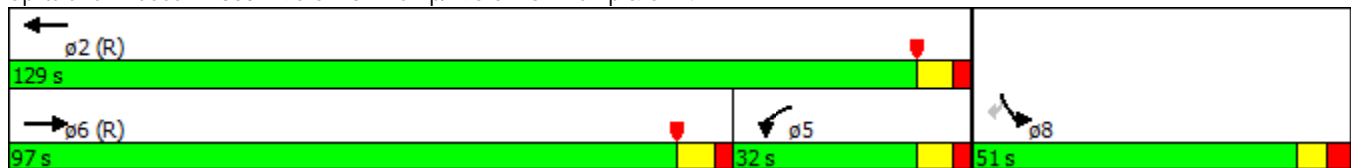


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.12		1.15	1.05					1.13		1.03
Control Delay		90.6		124.7	39.5					131.2		100.7
Queue Delay		0.2		0.0	22.0					0.0		0.9
Total Delay		90.8		124.7	61.5					131.2		101.6
LOS		F		F	E					F		F
Approach Delay		90.8			72.7							
Approach LOS		F			E							
Queue Length 50th (ft)		~1403		~384	~1673					~653		~501
Queue Length 95th (ft)		m787		m#411	m#1662					#790		#651
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)												310
Base Capacity (vph)		2490		467	2388					829		728
Starvation Cap Reductn		243		0	0					0		0
Spillback Cap Reductn		6		0	142					0		2
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		1.24		1.15	1.11					1.13		1.04

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 89.6
 Intersection LOS: F
 Intersection Capacity Utilization 110.9%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 2
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑			↑↑↑	↖	↖		↖↗			
Volume (vph)	551	2661	0	0	2544	756	344	0	374	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						415			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	35.0	145.0			110.0	110.0	35.0		35.0			
Total Split (%)	19.4%	80.6%			61.1%	61.1%	19.4%		19.4%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	27.5	137.5			102.5	102.5	28.0		28.0			
Actuated g/C Ratio	0.15	0.76			0.57	0.57	0.16		0.16			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 2
 Year 2042 PM Peak

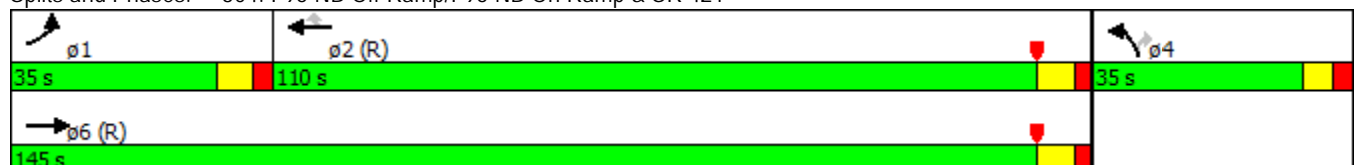


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.11	0.72			0.93	0.74	1.32		0.80			
Control Delay	129.6	4.3			21.0	4.3	220.3		72.1			
Queue Delay	0.0	23.1			19.5	5.1	0.7		0.0			
Total Delay	129.6	27.4			40.5	9.3	221.0		72.1			
LOS	F	C			D	A	F		E			
Approach Delay		45.0			33.3							
Approach LOS		D			C							
Queue Length 50th (ft)	~409	356			766	90	~549		213			
Queue Length 95th (ft)	m332	m279			783	m91	#769		285			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	524	3884			2895	1080	275		495			
Starvation Cap Reductn	0	1199			315	219	0		0			
Spillback Cap Reductn	0	37			76	0	14		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.11	1.04			1.04	0.92	1.39		0.80			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 32 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.32
 Intersection Signal Delay: 49.4
 Intersection LOS: D
 Intersection Capacity Utilization 110.9%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 3
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	938	14	72	628	139	24	51	52	202	15	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1630	0
Flt Permitted	0.950			0.950			0.695			0.441		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1295	1863	1583	821	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167		79	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	153	987	15	76	661	146	25	54	55	213	16	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	18.2	91.6	91.6	11.8	85.2	85.2	16.3	10.9	10.9	26.1	18.3	
Actuated g/C Ratio	0.12	0.61	0.61	0.08	0.57	0.57	0.11	0.07	0.07	0.17	0.12	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 3
Year 2042 AM Peak

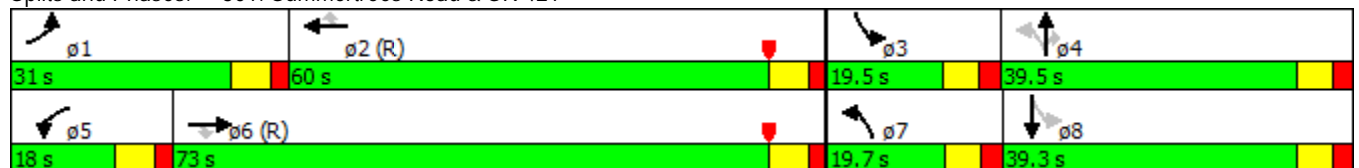


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.87	0.01	0.55	0.63	0.15	0.15	0.40	0.20	0.95	0.35	
Control Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
LOS	F	D	A	F	C	A	D	E	A	F	C	
Approach Delay		41.4			27.8			40.3			79.3	
Approach LOS		D			C			D			E	
Queue Length 50th (ft)	146	800	0	73	436	0	20	52	0	193	14	
Queue Length 95th (ft)	217	#1240	0	125	663	27	47	98	0	#337	73	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	289	1137	1013	152	1057	971	232	409	478	224	418	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.87	0.01	0.50	0.63	0.15	0.11	0.13	0.12	0.95	0.23	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 41.2 Intersection LOS: D
 Intersection Capacity Utilization 89.3% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 3
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔↔	↕↕	↔	↔↔	↕↕	↔↔	↔↔	↔↔	↕↔
Volume (vph)	331	766	140	632	539	1106	157	1607	1091	1113	746	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.977				0.850			0.850		0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				76			124		14	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	348	806	147	665	567	1164	165	1692	1148	1172	785	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	953	0	665	567	1164	165	1692	1148	1172	938	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	35.0	52.0		28.0	45.0	42.0	25.0	58.0	28.0	42.0	75.0	
Total Split (%)	19.4%	28.9%		15.6%	25.0%	23.3%	13.9%	32.2%	15.6%	23.3%	41.7%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	23.0	44.0		20.0	41.0	83.0	13.9	50.5	78.0	34.0	71.1	
Actuated g/C Ratio	0.13	0.24		0.11	0.23	0.46	0.08	0.28	0.43	0.19	0.40	

Lanes, Volumes, Timings
 302: Williamson Boulevard & SR 421

Alternative 3
 Year 2042 AM Peak

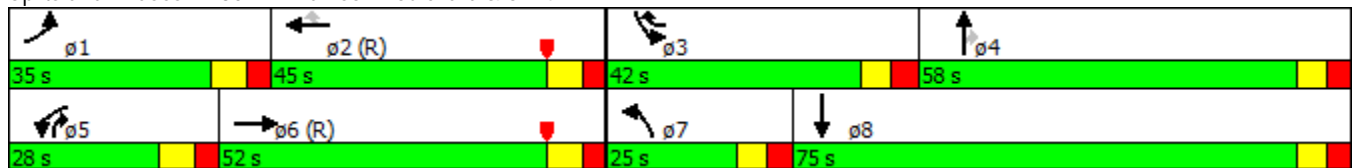


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.79	0.78		1.75	0.70	1.51	0.62	1.71	0.90	1.81	0.68	
Control Delay	89.5	67.2		384.6	76.9	262.0	90.7	358.7	52.4	407.1	47.9	
Queue Delay	0.0	52.7		0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	
Total Delay	89.5	119.9		384.6	76.9	262.0	90.7	358.7	56.2	407.1	47.9	
LOS	F	F		F	E	F	F	F	E	F	D	
Approach Delay		111.8			252.3			228.4			247.4	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	208	382		~610	306	~1898	99	~1538	654	~1068	477	
Queue Length 95th (ft)	263	438		#741	400	#2200	140	#1672	776	#1207	576	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)	280			460			205		590	690		
Base Capacity (vph)	514	1228		381	805	770	333	992	1277	648	1372	
Starvation Cap Reductn	0	0		0	0	3	0	0	0	0	0	
Spillback Cap Reductn	0	693		0	0	0	0	0	77	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.68	1.78		1.75	0.70	1.52	0.50	1.71	0.96	1.81	0.68	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 74 (41%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 222.2
 Intersection LOS: F
 Intersection Capacity Utilization 141.9%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 3
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2630	340	277	1732	0	0	0	0	831	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Ped Bike Factor												
Frt		0.983										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4999	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	4999	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2768	358	292	1823	0	0	0	0	875	0	574
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3126	0	292	1823	0	0	0	0	875	0	574
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		109.0		22.0	131.0					49.0		49.0
Total Split (%)		60.6%		12.2%	72.8%					27.2%		27.2%
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None		None
Act Effect Green (s)		101.5		14.5	123.5					41.5		41.5
Actuated g/C Ratio		0.56		0.08	0.69					0.23		0.23

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 3
 Year 2042 AM Peak

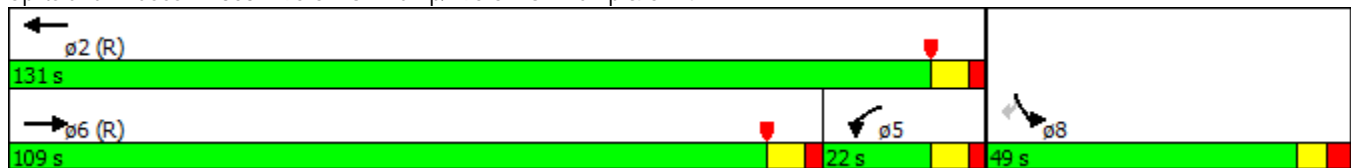


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.11		1.06	0.75					1.11		0.82
Control Delay		82.5		114.9	10.9					126.5		68.0
Queue Delay		0.4		0.0	1.1					1.0		1.5
Total Delay		82.9		114.9	12.0					127.5		69.5
LOS		F		F	B					F		E
Approach Delay		82.9			26.2							
Approach LOS		F			C							
Queue Length 50th (ft)		~1501		~194	257					-604		327
Queue Length 95th (ft)		m827		m#262	m173					#741		413
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)												310
Base Capacity (vph)		2828		276	2428					791		698
Starvation Cap Reductn		521		0	343					0		0
Spillback Cap Reductn		0		0	174					119		37
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		1.36		1.06	0.87					1.30		0.87

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 119 (66%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 69.7
 Intersection LOS: E
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 3
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔↔			↔↔↔	↔	↔		↔↔			
Volume (vph)	728	2733	0	0	1611	887	398	0	524	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						559			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	49.0	130.0			81.0	81.0	50.0		50.0			
Total Split (%)	27.2%	72.2%			45.0%	45.0%	27.8%		27.8%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	41.3	122.5			73.7	73.7	43.0		43.0			
Actuated g/C Ratio	0.23	0.68			0.41	0.41	0.24		0.24			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 3
 Year 2042 AM Peak

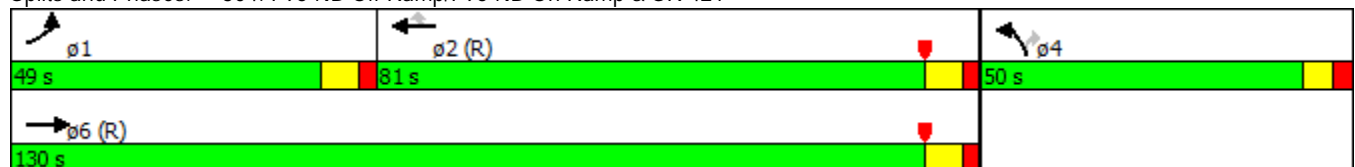


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.97	0.83			0.82	0.96	0.99		0.77			
Control Delay	86.0	11.5			36.6	28.3	108.6		63.1			
Queue Delay	17.8	32.4			1.4	43.2	0.0		0.2			
Total Delay	103.9	43.8			38.0	71.5	108.6		63.2			
LOS	F	D			D	E	F		E			
Approach Delay		56.4			49.9							
Approach LOS		E			D							
Queue Length 50th (ft)	482	491			473	323	500		306			
Queue Length 95th (ft)	m430	m406			584	#927	#737		389			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	791	3460			2080	978	422		721			
Starvation Cap Reductn	54	747			202	186	0		0			
Spillback Cap Reductn	0	764			0	0	0		10			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.04	1.07			0.90	1.18	0.99		0.78			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 109 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 57.6
 Intersection LOS: E
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 3
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	999	32	64	1074	72	22	20	31	84	48	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.206			0.638		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	384	1863	1583	1188	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			162
Link Speed (mph)		30			45			25				25
Link Distance (ft)		248			1468			287				321
Travel Time (s)		5.6			22.2			7.8				8.8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	51	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	320	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	16.0	84.5	84.5	13.5	82.0	82.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.7%	56.3%	56.3%	9.0%	54.7%	54.7%	8.3%	26.3%	26.3%	8.3%	26.3%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	9.5	93.4	93.4	7.0	90.9	90.9	24.0	20.0	20.0	26.2	22.6	
Actuated g/C Ratio	0.06	0.62	0.62	0.05	0.61	0.61	0.16	0.13	0.13	0.17	0.15	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 3
Year 2042 PM Peak

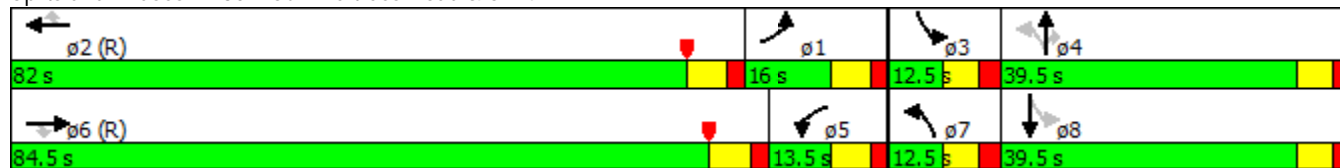


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.12	0.91	0.03	0.82	1.00	0.08	0.20	0.08	0.10	0.38	0.84	
Control Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
LOS	F	D	A	F	E	A	D	D	A	D	D	
Approach Delay		52.9			57.9			28.3			49.3	
Approach LOS		D			E			C			D	
Queue Length 50th (ft)	~142	915	0	66	~1198	0	18	18	0	71	159	
Queue Length 95th (ft)	#280	#1410	0	#160	#1604	5	40	41	0	111	257	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	112	1160	1031	82	1129	1006	116	409	441	233	484	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.13	0.91	0.03	0.82	1.00	0.08	0.20	0.05	0.07	0.38	0.66	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 53.9
 Intersection LOS: D
 Intersection Capacity Utilization 97.7%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 3
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	125	833	156	984	1045	1062	137	687	610	1212	1532	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.976				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				76			173			10
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	132	877	164	1036	1100	1118	144	723	642	1276	1613	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	1041	0	1036	1100	1118	144	723	642	1276	1853	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	17.0	53.0		39.0	75.0	45.0	14.0	43.0	39.0	45.0	74.0	
Total Split (%)	9.4%	29.4%		21.7%	41.7%	25.0%	7.8%	23.9%	21.7%	25.0%	41.1%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	9.0	45.0		31.0	67.0	112.0	6.5	35.5	66.0	37.0	66.5	
Actuated g/C Ratio	0.05	0.25		0.17	0.37	0.62	0.04	0.20	0.37	0.21	0.37	

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 3
Year 2042 PM Peak

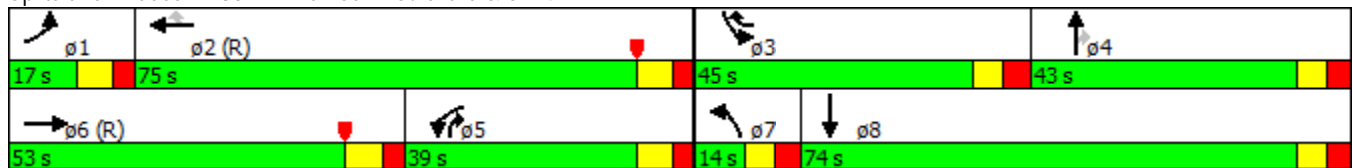


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.77	0.83		1.75	0.84	1.10	1.17	1.04	0.57	1.81	1.44	
Control Delay	111.6	69.3		380.7	59.5	78.1	203.1	112.1	18.4	406.7	241.3	
Queue Delay	0.0	0.0		0.0	33.7	0.6	0.0	0.0	4.0	0.0	0.0	
Total Delay	111.6	69.3		380.7	93.2	78.7	203.1	112.1	22.4	406.7	241.3	
LOS	F	E		F	F	E	F	F	C	F	F	
Approach Delay		74.1			179.8			82.6			308.8	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	80	423		~938	609	~1467	~103	~481	126	~1163	~1559	
Queue Length 95th (ft)	#137	482		m#882	m584	m#1057	#185	#617	164	#1301	#1689	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)	280			460			205		590	690		
Base Capacity (vph)	171	1255		591	1317	1013	123	697	1131	705	1289	
Starvation Cap Reductn	0	0		0	283	112	0	0	0	0	0	
Spillback Cap Reductn	0	2		0	0	0	0	0	394	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.77	0.83		1.75	1.06	1.24	1.17	1.04	0.87	1.81	1.44	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 91 (51%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 194.4 Intersection LOS: F
 Intersection Capacity Utilization 127.5% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 3
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2326	329	512	2376	0	0	0	0	886	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Ped Bike Factor												
Frt		0.981										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	4989	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	4989	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2448	346	539	2501	0	0	0	0	933	0	753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2794	0	539	2501	0	0	0	0	933	0	753
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		97.0		32.0	129.0					51.0		51.0
Total Split (%)		53.9%		17.8%	71.7%					28.3%		28.3%
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Recall Mode		C-Max		None	C-Max					None		None
Act Effect Green (s)		89.5		24.5	121.5					43.5		43.5
Actuated g/C Ratio		0.50		0.14	0.68					0.24		0.24

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 3
 Year 2042 PM Peak

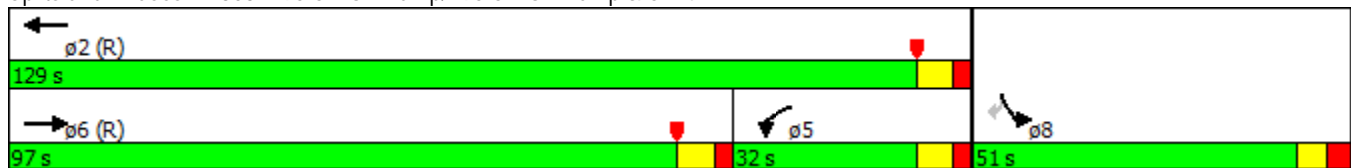


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.12		1.15	1.05					1.13		1.03
Control Delay		87.4		124.7	39.5					131.2		100.7
Queue Delay		0.4		0.0	5.4					0.0		26.1
Total Delay		87.8		124.7	44.9					131.2		126.7
LOS		F		F	D					F		F
Approach Delay		87.8			59.0							
Approach LOS		F			E							
Queue Length 50th (ft)		~1352		~384	~1673					~653		~501
Queue Length 95th (ft)		m549		m#411	m#1662					#790		#651
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)												310
Base Capacity (vph)		2490		467	2388					829		728
Starvation Cap Reductn		424		0	0					0		0
Spillback Cap Reductn		6		0	30					0		171
Storage Cap Reductn		0		0	0					0		0
Reduced v/c Ratio		1.35		1.15	1.06					1.13		1.35

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 85.5
 Intersection LOS: F
 Intersection Capacity Utilization 110.9%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 3
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑↑			↑↑↑	↔	↔		↔↔			
Volume (vph)	551	2661	0	0	2544	756	344	0	374	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Flt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						415			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	35.0	145.0			110.0	110.0	35.0		35.0			
Total Split (%)	19.4%	80.6%			61.1%	61.1%	19.4%		19.4%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	27.5	137.5			102.5	102.5	28.0		28.0			
Actuated g/C Ratio	0.15	0.76			0.57	0.57	0.16		0.16			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 3
 Year 2042 PM Peak



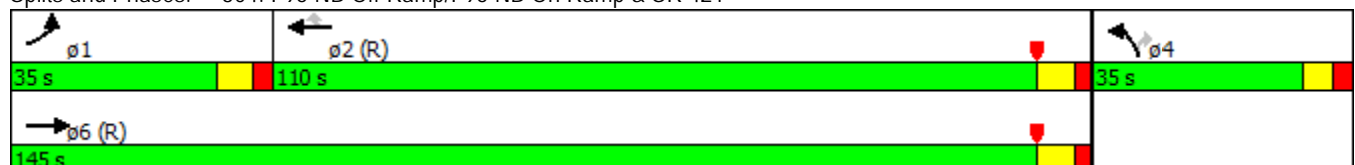
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.11	0.72			0.93	0.74	1.32		0.80			
Control Delay	129.6	4.3			21.0	4.3	220.3		72.1			
Queue Delay	0.0	23.1			19.5	5.1	0.7		0.0			
Total Delay	129.6	27.4			40.5	9.3	221.0		72.1			
LOS	F	C			D	A	F		E			
Approach Delay		45.0			33.3							
Approach LOS		D			C							
Queue Length 50th (ft)	~409	356			766	90	~549		213			
Queue Length 95th (ft)	m332	m279			783	m91	#769		285			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	524	3884			2895	1080	275		495			
Starvation Cap Reductn	0	1199			315	219	0		0			
Spillback Cap Reductn	0	37			76	0	14		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.11	1.04			1.04	0.92	1.39		0.80			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 32 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.32
 Intersection Signal Delay: 49.4
 Intersection Capacity Utilization 110.9%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service H

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 4
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	476	938	14	72	628	139	24	51	52	202	15	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1602	0
Flt Permitted	0.950			0.950			0.385			0.444		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	717	1863	1583	827	1602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167		232	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	501	987	15	76	661	146	25	54	55	213	16	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	501	987	15	76	661	146	25	54	55	213	248	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	49.7	91.5	91.5	11.8	53.5	53.5	16.5	11.1	11.1	26.3	18.5	
Actuated g/C Ratio	0.33	0.61	0.61	0.08	0.36	0.36	0.11	0.07	0.07	0.18	0.12	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 4
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.85	0.87	0.01	0.55	1.00	0.22	0.19	0.39	0.20	0.94	0.62	
Control Delay	62.8	36.1	0.0	80.6	81.5	3.6	51.5	74.4	1.7	103.4	16.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.8	36.1	0.0	80.6	81.5	3.6	51.5	74.4	1.7	103.4	16.6	
LOS	E	D	A	F	F	A	D	E	A	F	B	
Approach Delay		44.7			68.5			40.3			56.7	
Approach LOS		D			E			D			E	
Queue Length 50th (ft)	468	800	0	73	644	0	20	52	0	193	14	
Queue Length 95th (ft)	#725	#1250	0	125	#910	34	47	97	0	#329	105	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	586	1135	1011	152	664	672	199	409	478	226	531	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.85	0.87	0.01	0.50	1.00	0.22	0.13	0.13	0.12	0.94	0.47	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 53.4 Intersection LOS: D
 Intersection Capacity Utilization 95.6% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 4
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↘	↑↑	↗	↘↘	↑↑	↗↗	↘↘	↑↑	
Volume (vph)	0	766	140	632	539	1106	157	1607	1091	1113	746	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	0		450	205		590	690		0
Storage Lanes	0		1	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	1.00	0.86	1.00	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	6408	1583	3433	3539	1583	3433	3539	2787	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	6408	1583	3433	3539	1583	3433	3539	2787	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170			27			124			
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	806	147	665	567	1164	165	1692	1148	1172	785	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	806	147	665	567	1164	165	1692	1148	1172	785	0
Turn Type		NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		6		5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			
Detector Phase		6	6	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)		15.0	15.0	5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)		51.0	51.0	13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)		41.0	41.0	41.0	82.0	41.0	27.8	57.0	41.0	41.0	70.2	
Total Split (%)		22.8%	22.8%	22.8%	45.6%	22.8%	15.4%	31.7%	22.8%	22.8%	39.0%	
Yellow Time (s)		5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)		3.0	3.0	3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	8.0	8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag		Lag	Lag	Lead		Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode		C-Max	C-Max	None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)		33.0	33.0	33.0	74.0	115.0	14.0	49.5	90.0	33.0	69.0	
Actuated g/C Ratio		0.18	0.18	0.18	0.41	0.64	0.08	0.28	0.50	0.18	0.38	

Lanes, Volumes, Timings
 302: Williamson Boulevard & SR 421

Alternative 4
 Year 2042 AM Peak

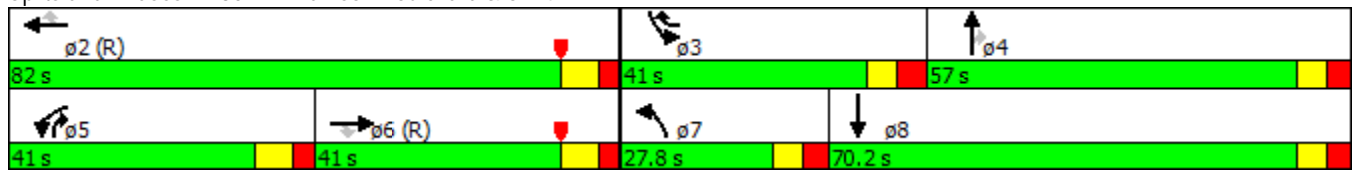


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.69	0.34	1.06	0.39	1.14	0.62	1.74	0.79	1.86	0.58	
Control Delay		72.1	6.5	111.3	39.5	116.6	90.5	373.1	37.6	430.6	46.5	
Queue Delay		0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.7	0.2	0.0	
Total Delay		72.1	6.5	111.3	39.5	117.6	90.5	373.1	39.3	430.8	46.5	
LOS		E	A	F	D	F	F	F	D	F	D	
Approach Delay		62.0			97.4			230.0			276.6	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)		262	0	~445	296	~1566	99	~1551	572	~1080	387	
Queue Length 95th (ft)		303	42	#579	367	#1897	139	#1685	678	#1219	474	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)			230			450	205		590	690		
Base Capacity (vph)		1174	429	629	1454	1021	387	973	1455	629	1357	
Starvation Cap Reductn		0	0	0	0	190	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	160	15	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.69	0.34	1.06	0.39	1.40	0.43	1.74	0.89	1.91	0.58	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.86
 Intersection Signal Delay: 183.5 Intersection LOS: F
 Intersection Capacity Utilization 132.5% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 4
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↖	↑↑↑					↖↖↖		↗↗
Volume (vph)	0	2630	340	277	1732	0	0	0	0	831	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		450	0		0	0		0	0		310
Storage Lanes	1		1	2		0	0		0	3		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.81	1.00	0.97	0.86	1.00	1.00	1.00	1.00	0.94	1.00	0.88
Ped Bike Factor												
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	7544	1583	3433	6408	0	0	0	0	4990	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	7544	1583	3433	6408	0	0	0	0	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			358									73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2768	358	292	1823	0	0	0	0	875	0	574
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2768	358	292	1823	0	0	0	0	875	0	574
Turn Type		NA	Perm	Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases			6									8
Detector Phase		6	6	5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0	15.0	5.0	15.0					10.0		10.0
Minimum Split (s)		23.5	23.5	12.5	27.5					17.5		17.5
Total Split (s)		95.0	95.0	30.0	125.0					55.0		55.0
Total Split (%)		52.8%	52.8%	16.7%	69.4%					30.6%		30.6%
Yellow Time (s)		5.0	5.0	5.0	5.0					4.0		4.0
All-Red Time (s)		2.5	2.5	2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5	7.5	7.5	7.5					7.5		7.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		C-Max	C-Max	None	C-Max					None		None
Act Effect Green (s)		94.0	94.0	22.5	124.0					41.0		41.0
Actuated g/C Ratio		0.52	0.52	0.12	0.69					0.23		0.23

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 4
 Year 2042 AM Peak

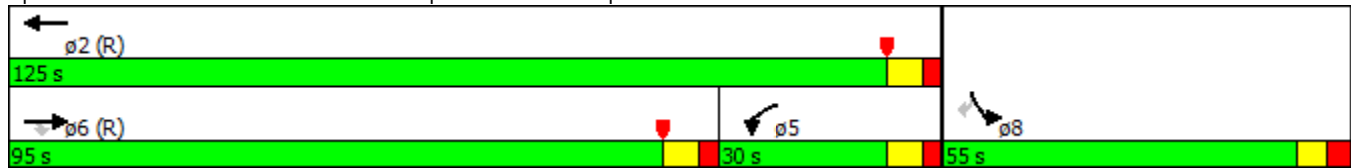


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.70	0.36	0.68	0.41					0.77		0.83
Control Delay		30.0	4.9	65.2	4.0					69.7		68.2
Queue Delay		4.9	0.6	0.0	0.1					1.4		0.1
Total Delay		35.0	5.5	65.2	4.1					71.1		68.3
LOS		C	A	E	A					E		E
Approach Delay		31.6			12.5							
Approach LOS		C			B							
Queue Length 50th (ft)		660	55	175	54					345		327
Queue Length 95th (ft)		m569	m42	m220	m57					381		394
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)			450									310
Base Capacity (vph)		3938	997	429	4413					1316		789
Starvation Cap Reductn		1103	322	0	953					0		0
Spillback Cap Reductn		0	0	0	636					249		7
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.98	0.53	0.68	0.53					0.82		0.73

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 119 (66%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 33.9
 Intersection Capacity Utilization 116.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service H
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 4
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑↑			↑↑↑↑	↔	↔		↔↔			
Volume (vph)	728	2733	0	0	1611	887	398	0	524	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	500		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.81	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Flt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	7544	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	7544	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						495			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	64.0	130.0			66.0	66.0	50.0		50.0			
Total Split (%)	35.6%	72.2%			36.7%	36.7%	27.8%		27.8%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	46.2	122.5			68.8	68.8	43.0		43.0			
Actuated g/C Ratio	0.26	0.68			0.38	0.38	0.24		0.24			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 4
 Year 2042 AM Peak

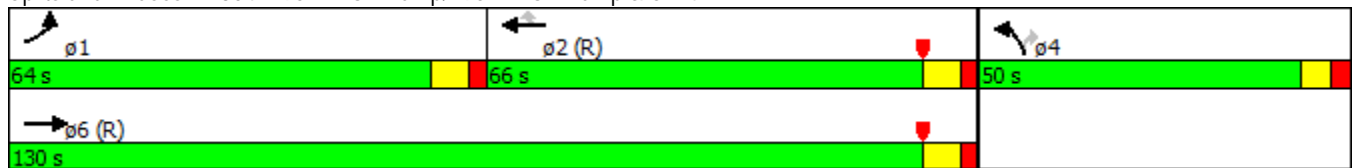


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.87	0.83			0.59	1.03	0.99		0.77			
Control Delay	99.0	10.6			34.4	47.6	108.6		63.1			
Queue Delay	2.4	2.5			0.0	28.7	0.0		0.1			
Total Delay	101.4	13.2			34.4	76.3	108.6		63.2			
LOS	F	B			C	E	F		E			
Approach Delay		31.7			49.3							
Approach LOS		C			D							
Queue Length 50th (ft)	490	183			316	~772	500		306			
Queue Length 95th (ft)	547	267			393	#1074	#737		389			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	1077	3460			2884	911	422		721			
Starvation Cap Reductn	190	234			0	165	0		0			
Spillback Cap Reductn	0	449			0	0	0		6			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.86	0.96			0.59	1.25	0.99		0.77			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 109 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 45.0
 Intersection LOS: D
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 4
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	245	999	32	64	1074	72	22	20	31	84	48	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1609	0
Flt Permitted	0.950			0.950			0.207			0.556		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	386	1863	1583	1036	1609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167		273	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	258	1052	34	67	1131	76	23	21	33	88	51	509
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	1052	34	67	1131	76	23	21	33	88	560	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	41.0	81.0	81.0	29.0	69.0	69.0	15.0	25.0	25.0	15.0	25.0	
Total Split (%)	27.3%	54.0%	54.0%	19.3%	46.0%	46.0%	10.0%	16.7%	16.7%	10.0%	16.7%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	26.9	77.1	77.1	15.0	62.5	62.5	25.1	20.0	20.0	39.0	32.5	
Actuated g/C Ratio	0.18	0.51	0.51	0.10	0.42	0.42	0.17	0.13	0.13	0.26	0.22	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 4
Year 2042 PM Peak

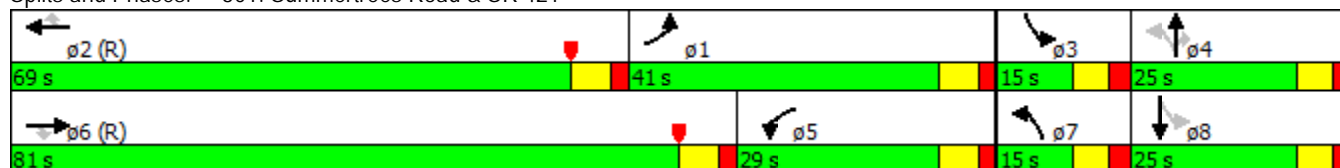


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	1.10	0.04	0.38	1.46	0.10	0.18	0.08	0.09	0.25	1.00	
Control Delay	78.6	95.0	0.1	67.4	246.5	0.3	46.8	57.9	0.5	46.3	66.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.6	95.0	0.1	67.4	246.5	0.3	46.8	57.9	0.5	46.3	66.2	
LOS	E	F	A	E	F	A	D	E	A	D	E	
Approach Delay		89.5			222.4			30.0			63.5	
Approach LOS		F			F			C			E	
Queue Length 50th (ft)	245	~1196	0	62	~1507	0	17	18	0	66	~381	
Queue Length 95th (ft)	330	#1459	0	109	#1773	0	44	47	0	124	#684	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	407	957	872	265	776	757	146	269	371	357	562	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.63	1.10	0.04	0.25	1.46	0.10	0.16	0.08	0.09	0.25	1.00	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 133.7 Intersection LOS: F
 Intersection Capacity Utilization 118.8% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 4
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↘	↑↑	↗	↘↘	↑↑	↗↗	↘↘	↑↑	
Volume (vph)	0	833	156	984	1045	1062	137	687	610	1212	1532	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	0		450	205		590	690		0
Storage Lanes	0		1	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	1.00	0.86	1.00	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	6408	1583	3433	3539	1583	3433	3539	2787	3433	3539	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	6408	1583	3433	3539	1583	3433	3539	2787	3433	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170			27			124			
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	877	164	1036	1100	1118	144	723	642	1276	1613	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	877	164	1036	1100	1118	144	723	642	1276	1613	0
Turn Type		NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases		6		5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			
Detector Phase		6	6	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)		15.0	15.0	5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)		51.0	51.0	13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)		52.0	52.0	44.0	96.0	46.0	18.0	38.0	44.0	46.0	66.0	
Total Split (%)		28.9%	28.9%	24.4%	53.3%	25.6%	10.0%	21.1%	24.4%	25.6%	36.7%	
Yellow Time (s)		5.0	5.0	5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)		3.0	3.0	3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		8.0	8.0	8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag		Lead	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode		C-Max	C-Max	None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)		44.0	44.0	36.0	88.0	134.0	10.3	30.5	66.0	38.0	58.7	
Actuated g/C Ratio		0.24	0.24	0.20	0.49	0.74	0.06	0.17	0.37	0.21	0.33	

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 4
Year 2042 PM Peak

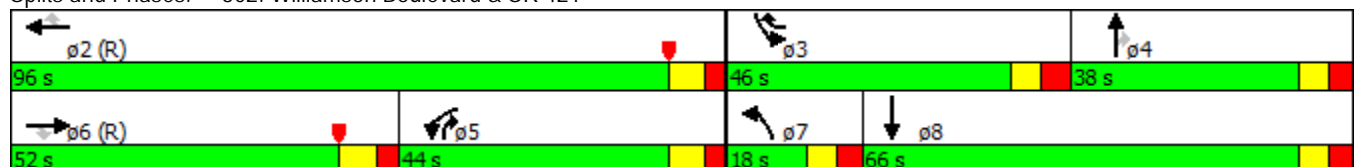


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.56	0.32	1.51	0.64	0.94	0.73	1.21	0.58	1.76	1.40	
Control Delay		61.1	7.6	272.9	21.7	31.4	104.7	167.8	20.6	386.3	227.7	
Queue Delay		0.2	0.0	0.0	0.8	36.4	0.0	0.0	0.0	0.0	0.0	
Total Delay		61.3	7.6	272.9	22.5	67.8	104.7	167.8	20.6	386.3	227.7	
LOS		E	A	F	C	E	F	F	C	F	F	
Approach Delay		52.9			117.8			99.2			297.7	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)		266	0	~877	248	549	88	~544	139	~1151	~1335	
Queue Length 95th (ft)		305	58	m#1001	m314	m#489	#137	#681	176	#1289	#1469	
Internal Link Dist (ft)		1388			572			722			781	
Turn Bay Length (ft)			230			450	205		590	690		
Base Capacity (vph)		1566	515	686	1730	1185	200	599	1100	724	1154	
Starvation Cap Reductn		0	0	0	315	151	0	0	0	0	0	
Spillback Cap Reductn		158	0	0	0	0	0	0	2	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.62	0.32	1.51	0.78	1.08	0.72	1.21	0.58	1.76	1.40	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.76
 Intersection Signal Delay: 166.6
 Intersection LOS: F
 Intersection Capacity Utilization 120.4%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 4
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↘	↑↑↑					↖↖↖		↗↗
Volume (vph)	0	2326	329	512	2376	0	0	0	0	886	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		450	0		0	0		0	0		310
Storage Lanes	1		1	2		0	0		0	3		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.81	1.00	0.97	0.86	1.00	1.00	1.00	1.00	0.94	1.00	0.88
Ped Bike Factor												
Frt			0.850									0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	7544	1583	3433	6408	0	0	0	0	4990	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	7544	1583	3433	6408	0	0	0	0	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			346									73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	0	2448	346	539	2501	0	0	0	0	933	0	753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2448	346	539	2501	0	0	0	0	933	0	753
Turn Type		NA	Perm	Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases			6									8
Detector Phase		6	6	5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0	15.0	5.0	15.0					10.0		10.0
Minimum Split (s)		23.5	23.5	12.5	27.5					17.5		17.5
Total Split (s)		80.0	80.0	43.0	123.0					57.0		57.0
Total Split (%)		44.4%	44.4%	23.9%	68.3%					31.7%		31.7%
Yellow Time (s)		5.0	5.0	5.0	5.0					4.0		4.0
All-Red Time (s)		2.5	2.5	2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5	7.5	7.5	7.5					7.5		7.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		C-Max	C-Max	None	C-Max					None		None
Act Effect Green (s)		73.5	73.5	35.5	116.5					48.5		48.5
Actuated g/C Ratio		0.41	0.41	0.20	0.65					0.27		0.27

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

Alternative 4
 Year 2042 PM Peak

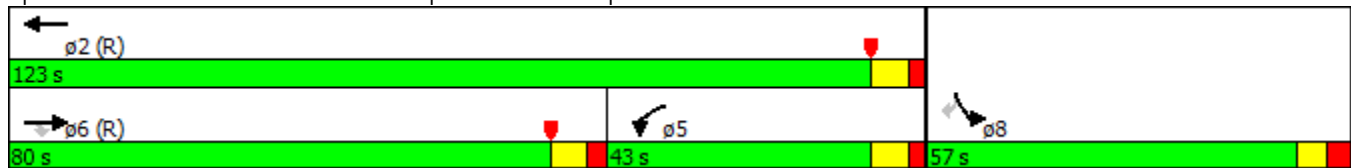


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.79	0.41	0.80	0.60					0.69		0.94
Control Delay		39.0	9.2	49.4	6.4					62.2		77.2
Queue Delay		0.4	0.3	0.0	0.1					0.0		0.4
Total Delay		39.4	9.4	49.4	6.5					62.2		77.6
LOS		D	A	D	A					E		E
Approach Delay		35.7			14.1							
Approach LOS		D			B							
Queue Length 50th (ft)		546	111	331	105					351		455
Queue Length 95th (ft)		m425	m99	410	109					403		#588
Internal Link Dist (ft)		572			472			274			669	
Turn Bay Length (ft)			450									310
Base Capacity (vph)		3082	851	677	4148					1372		819
Starvation Cap Reductn		216	137	0	372					0		0
Spillback Cap Reductn		60	0	0	26					0		5
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.85	0.48	0.80	0.66					0.68		0.93

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 34.4
 Intersection LOS: C
 Intersection Capacity Utilization 99.9%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 4
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	551	2661	0	0	2544	756	344	0	374	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	500		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.81	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Flt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	7544	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	7544	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						399			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	56.0	124.0			68.0	68.0	56.0		56.0			
Total Split (%)	31.1%	68.9%			37.8%	37.8%	31.1%		31.1%			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	35.8	123.9			80.6	80.6	41.6		41.6			
Actuated g/C Ratio	0.20	0.69			0.45	0.45	0.23		0.23			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

Alternative 4
 Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.85	0.80			0.79	0.86	0.89		0.56			
Control Delay	95.9	13.0			28.6	16.3	89.9		51.7			
Queue Delay	0.1	2.4			0.6	23.9	0.0		0.0			
Total Delay	95.9	15.5			29.2	40.2	89.9		51.7			
LOS	F	B			C	D	F		D			
Approach Delay		29.3			31.7							
Approach LOS		C			C							
Queue Length 50th (ft)	348	350			529	400	414		191			
Queue Length 95th (ft)	348	1312			760	m732	527		244			
Internal Link Dist (ft)		472			633			574			478	
Turn Bay Length (ft)							315		315			
Base Capacity (vph)	925	3500			3376	928	481		811			
Starvation Cap Reductn	19	550			304	158	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.64	0.95			0.87	1.03	0.75		0.49			

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 32 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 34.4
 Intersection LOS: C
 Intersection Capacity Utilization 99.9%
 ICU Level of Service F
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
3: Williamson Boulevard & SR 421

Alternative 5
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	331	766	140	632	539	1106	157	1607	1091	1113	746	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	0		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.977				0.850			0.850		0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				77			122		14	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		1441			403			988			1048	
Travel Time (s)		32.8			9.2			15.0			15.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	348	806	147	665	567	1164	165	1692	1148	1172	785	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	953	0	665	567	1164	165	1692	1148	1172	938	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	33.0	53.0		28.0	48.0	37.0	24.0	52.0	28.0	37.0	65.0	
Total Split (%)	19.4%	31.2%		16.5%	28.2%	21.8%	14.1%	30.6%	16.5%	21.8%	38.2%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	7.0	7.0	7.0	8.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	21.9	45.0		20.0	43.1	81.1	13.5	45.0	72.0	30.0	61.5	
Actuated g/C Ratio	0.13	0.26		0.12	0.25	0.48	0.08	0.26	0.42	0.18	0.36	

Lanes, Volumes, Timings
3: Williamson Boulevard & SR 421

Alternative 5
Year 2042 AM Peak

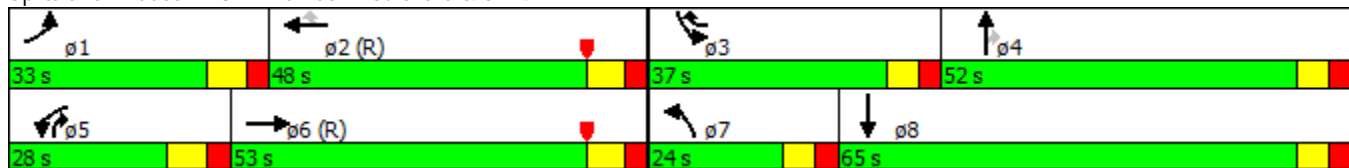


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.79	0.72		1.65	0.63	1.46	0.61	1.81	0.92	1.94	0.75	
Control Delay	85.0	59.0		350.5	55.6	252.1	85.1	401.7	53.4	461.4	51.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	85.0	59.0		350.5	55.6	252.1	85.1	401.7	53.4	461.4	51.5	
LOS	F	E		F	E	F	F	F	D	F	D	
Approach Delay		65.9			232.9			251.2			279.2	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	196	348		~544	321	~1737	93	~1485	628	~1032	474	
Queue Length 95th (ft)	251	403		#677	398	#2020	133	#1620	#769	#1171	578	
Internal Link Dist (ft)		1361			323			908			968	
Turn Bay Length (ft)	280						205		590	690		
Base Capacity (vph)	504	1330		403	898	795	343	936	1250	605	1259	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.69	0.72		1.65	0.63	1.46	0.48	1.81	0.92	1.94	0.75	

Intersection Summary

Area Type: Other
 Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.94
 Intersection Signal Delay: 225.6
 Intersection LOS: F
 Intersection Capacity Utilization 140.7%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
 952: SR 421 & SB Off Ramp (Crossover)

Alternative 5
 Year 2042 AM Peak

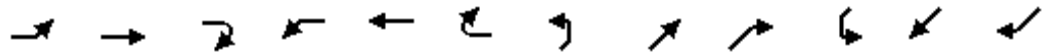


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↑↑↑			↑↑↑				
Volume (vph)	0	0	0	0	1732	0	0	2630	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	5085	0	0	5085	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	5085	0	0	5085	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			190			217			164	
Travel Time (s)		4.9			4.3			4.9			3.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	0	1823	0	0	2768	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1823	0	0	2768	0	0	0	0
Turn Type					NA			NA				
Protected Phases					4 3			2				
Permitted Phases												
Detector Phase					4 3			2				
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								22.0				
Total Split (s)								48.0				
Total Split (%)								56.5%				
Yellow Time (s)								4.0				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								6.0				
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode								C-Max				
Act Effct Green (s)					25.0			42.0				
Actuated g/C Ratio					0.29			0.49				

Lane Group	ø3	ø4
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Growth Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
Mid-Block Traffic (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	6.0	22.0
Total Split (s)	6.0	31.0
Total Split (%)	7%	36%
Yellow Time (s)	2.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	Max
Act Effect Green (s)		
Actuated g/C Ratio		

Lanes, Volumes, Timings
 952: SR 421 & SB Off Ramp (Crossover)

Alternative 5
 Year 2042 AM Peak



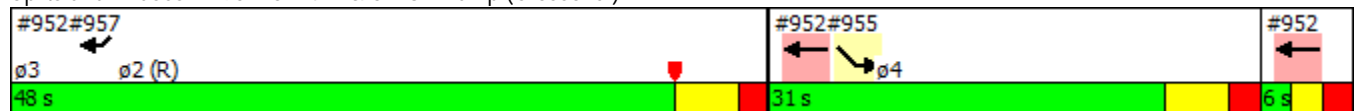
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio					1.22			1.10				
Control Delay					124.2			70.9				
Queue Delay					0.0			0.0				
Total Delay					124.2			70.9				
LOS					F			E				
Approach Delay					124.2			70.9				
Approach LOS					F			E				
Queue Length 50th (ft)					-460			-932				
Queue Length 95th (ft)					#559			m556				
Internal Link Dist (ft)		135			110			137			84	
Turn Bay Length (ft)												
Base Capacity (vph)					1495			2512				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					1.22			1.10				

Intersection Summary

Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 85
 Offset: 0 (0%), Referenced to phase 2:NET, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 92.1
 Intersection Capacity Utilization 94.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

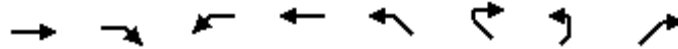
Splits and Phases: 952: SR 421 & SB Off Ramp (Crossover)



Lane Group	ø3	ø4
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
 953: SR 421 & NB Off Ramp (Crossover)

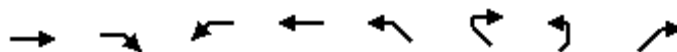
Alternative 5
 Year 2042 AM Peak



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR	NEL	NER	ø3	ø4
Lane Configurations		↑↑↑	↑↑↑							
Volume (vph)	0	2733	1611	0	0	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	12	12	12	12		
Grade (%)	0%			0%	0%		0%			
Storage Length (ft)		0	0		0	0	0	0		
Storage Lanes		3	3		0	0	0	0		
Taper Length (ft)			100		100		100			
Lane Util. Factor	1.00	*0.94	0.94	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor										
Frt										
Flt Protected			0.950							
Satd. Flow (prot)	0	5253	4990	0	0	0	0	0		
Flt Permitted			0.950							
Satd. Flow (perm)	0	5253	4990	0	0	0	0	0		
Right Turn on Red							Yes			
Satd. Flow (RTOR)										
Link Speed (mph)	30			30	30		30			
Link Distance (ft)	235			195	151		174			
Travel Time (s)	5.3			4.4	3.4		4.0			
Confl. Peds. (#/hr)										
Confl. Bikes (#/hr)										
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%		
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0		
Parking (#/hr)										
Mid-Block Traffic (%)	0%			0%	0%		0%			
Adj. Flow (vph)	0	2877	1696	0	0	0	0	0		
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	2877	1696	0	0	0	0	0		
Turn Type		custom	Prot							
Protected Phases		4 3	2						3	4
Permitted Phases										
Detector Phase		4 3	2							
Switch Phase										
Minimum Initial (s)			4.0						2.0	4.0
Minimum Split (s)			22.0						6.0	22.0
Total Split (s)			33.0						6.0	46.0
Total Split (%)			38.8%						7%	54%
Yellow Time (s)			4.0						2.0	4.0
All-Red Time (s)			2.0						2.0	2.0
Lost Time Adjust (s)			0.0							
Total Lost Time (s)			6.0							
Lead/Lag									Lag	Lead
Lead-Lag Optimize?									Yes	Yes
Recall Mode			C-Max						None	None
Act Effect Green (s)		40.0	27.0							
Actuated g/C Ratio		0.47	0.32							

Lanes, Volumes, Timings
 953: SR 421 & NB Off Ramp (Crossover)

Alternative 5
 Year 2042 AM Peak

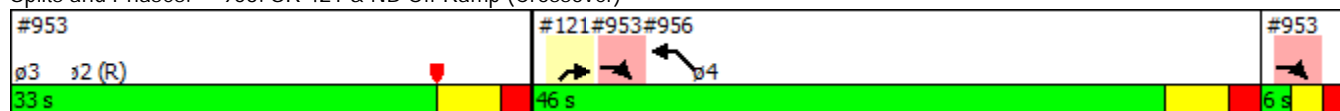


Lane Group	EBT	EBR	WBL	WBT	NWL	NWR	NEL	NER	ø3	ø4
v/c Ratio		1.16	1.07							
Control Delay		97.7	73.5							
Queue Delay		0.0	0.0							
Total Delay		97.7	73.5							
LOS		F	E							
Approach Delay										
Approach LOS										
Queue Length 50th (ft)		~848	~360							
Queue Length 95th (ft)		#893	#451							
Internal Link Dist (ft)	155			115	71		94			
Turn Bay Length (ft)										
Base Capacity (vph)		2472	1585							
Starvation Cap Reductn		0	0							
Spillback Cap Reductn		0	0							
Storage Cap Reductn		0	0							
Reduced v/c Ratio		1.16	1.07							

Intersection Summary

Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 85
 Offset: 0 (0%), Referenced to phase 2:WBL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 88.7
 Intersection Capacity Utilization 102.7%
 Analysis Period (min) 15
 * User Entered Value
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 953: SR 421 & NB Off Ramp (Crossover)



Lanes, Volumes, Timings
3: Williamson Boulevard & SR 421

Alternative 5
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔		↔↔↔	↔↔	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔
Volume (vph)	125	833	156	984	1045	1062	137	687	610	1212	1532	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	280		230	0		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.976				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				77			122			11
Link Speed (mph)		30			30			45				45
Link Distance (ft)		1441			403			988				1048
Travel Time (s)		32.8			9.2			15.0				15.9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	132	877	164	1036	1100	1118	144	723	642	1276	1613	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	1041	0	1036	1100	1118	144	723	642	1276	1853	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	17.0	53.0		35.0	71.0	40.0	13.0	42.0	35.0	40.0	69.0	
Total Split (%)	10.0%	31.2%		20.6%	41.8%	23.5%	7.6%	24.7%	20.6%	23.5%	40.6%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	7.0	7.0	7.0	8.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	9.0	45.0		27.0	63.0	97.0	6.0	35.0	61.0	33.0	62.0	
Actuated g/C Ratio	0.05	0.26		0.16	0.37	0.57	0.04	0.21	0.36	0.19	0.36	

Lanes, Volumes, Timings
3: Williamson Boulevard & SR 421

Alternative 5
Year 2042 PM Peak

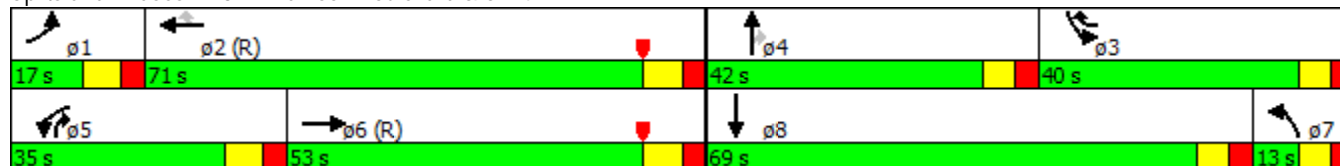


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.73	0.78		1.90	0.84	1.19	1.19	0.99	0.60	1.92	1.46	
Control Delay	101.9	61.6		447.5	46.3	116.7	206.2	97.8	20.4	451.4	247.6	
Queue Delay	0.0	0.0		0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	101.9	61.6		447.5	47.8	116.7	206.2	97.8	20.4	451.4	247.6	
LOS	F	E		F	D	F	F	F	C	F	F	
Approach Delay		66.2			198.7			75.3			330.7	
Approach LOS		E			F			E			F	
Queue Length 50th (ft)	76	389		~927	486	~976	~98	428	142	~1120	~1480	
Queue Length 95th (ft)	#126	447		#1068	617	#1726	#179	#570	182	#1257	#1613	
Internal Link Dist (ft)		1361			323			908			968	
Turn Bay Length (ft)	280						205		590	690		
Base Capacity (vph)	181	1329		545	1312	936	121	728	1078	666	1273	
Starvation Cap Reductn	0	0		0	87	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.78		1.90	0.90	1.19	1.19	0.99	0.60	1.92	1.46	

Intersection Summary

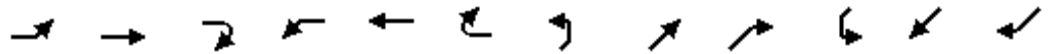
Area Type: Other
 Cycle Length: 170
 Actuated Cycle Length: 170
 Offset: 72 (42%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.92
 Intersection Signal Delay: 206.6
 Intersection LOS: F
 Intersection Capacity Utilization 126.4%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
 952: SR 421 & SB Off Ramp (Crossover)

Alternative 5
 Year 2042 PM Peak

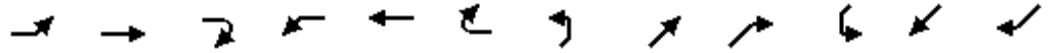


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↑↑↑			↑↑↑				
Volume (vph)	0	0	0	0	2376	0	0	2326	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	5085	0	0	5085	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	5085	0	0	5085	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		215			190			217			164	
Travel Time (s)		4.9			4.3			4.9			3.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	0	0	0	0	2501	0	0	2448	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	2501	0	0	2448	0	0	0	0
Turn Type					NA			NA				
Protected Phases					4 3			2				
Permitted Phases												
Detector Phase					4 3			2				
Switch Phase												
Minimum Initial (s)								5.0				
Minimum Split (s)								22.0				
Total Split (s)								40.0				
Total Split (%)								47.1%				
Yellow Time (s)								4.0				
All-Red Time (s)								2.0				
Lost Time Adjust (s)								0.0				
Total Lost Time (s)								6.0				
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode								C-Max				
Act Effct Green (s)					33.0			34.0				
Actuated g/C Ratio					0.39			0.40				

Lane Group	ø3	ø4
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Grade (%)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Growth Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
Mid-Block Traffic (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	6.0	22.0
Total Split (s)	6.0	39.0
Total Split (%)	7%	46%
Yellow Time (s)	2.0	4.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes
Recall Mode	None	Max
Act Effect Green (s)		
Actuated g/C Ratio		

Lanes, Volumes, Timings
 952: SR 421 & SB Off Ramp (Crossover)

Alternative 5
 Year 2042 PM Peak

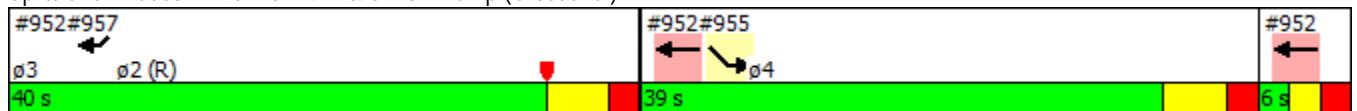


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio					1.27			1.20				
Control Delay					143.7			112.3				
Queue Delay					0.0			0.0				
Total Delay					143.7			112.3				
LOS					F			F				
Approach Delay					143.7			112.3				
Approach LOS					F			F				
Queue Length 50th (ft)					-651			-739				
Queue Length 95th (ft)					#746			m301				
Internal Link Dist (ft)		135			110			137			84	
Turn Bay Length (ft)												
Base Capacity (vph)					1974			2034				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					1.27			1.20				

Intersection Summary

Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 85
 Offset: 0 (0%), Referenced to phase 2:NET, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.27
 Intersection Signal Delay: 128.1 Intersection LOS: F
 Intersection Capacity Utilization 100.8% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

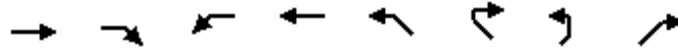
Splits and Phases: 952: SR 421 & SB Off Ramp (Crossover)



Lane Group	ø3	ø4
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
 953: NB Off Ramp (Crossover) & SR 421

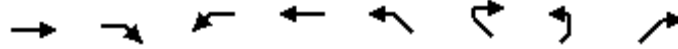
Alternative 5
 Year 2042 PM Peak



Lane Group	EBT	EBR	WBL	WBT	NWL	NWR	NEL	NER	ø3	ø4
Lane Configurations										
Volume (vph)	0	2661	2544	0	0	0	0	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width (ft)	12	12	12	12	12	12	12	12		
Grade (%)	0%			0%	0%		0%			
Storage Length (ft)		0	0		0	0	0	0		
Storage Lanes		3	3		0	0	0	0		
Taper Length (ft)			100		100		100			
Lane Util. Factor	1.00	*0.94	0.94	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor										
Frt										
Flt Protected			0.950							
Satd. Flow (prot)	0	5253	4990	0	0	0	0	0		
Flt Permitted			0.950							
Satd. Flow (perm)	0	5253	4990	0	0	0	0	0		
Right Turn on Red							Yes			
Satd. Flow (RTOR)										
Link Speed (mph)	30			30	30		30			
Link Distance (ft)	235			195	151		174			
Travel Time (s)	5.3			4.4	3.4		4.0			
Confl. Peds. (#/hr)										
Confl. Bikes (#/hr)										
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%		
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0		
Parking (#/hr)										
Mid-Block Traffic (%)	0%			0%	0%		0%			
Adj. Flow (vph)	0	2801	2678	0	0	0	0	0		
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	2801	2678	0	0	0	0	0		
Turn Type		custom	Prot							
Protected Phases		4 3	2						3	4
Permitted Phases										
Detector Phase		4 3	2							
Switch Phase										
Minimum Initial (s)			4.0						2.0	4.0
Minimum Split (s)			22.0						6.0	22.0
Total Split (s)			41.0						6.0	38.0
Total Split (%)			48.2%						7%	45%
Yellow Time (s)			4.0						2.0	4.0
All-Red Time (s)			2.0						2.0	2.0
Lost Time Adjust (s)			0.0							
Total Lost Time (s)			6.0							
Lead/Lag									Lag	Lead
Lead-Lag Optimize?									Yes	Yes
Recall Mode			C-Max						None	None
Act Effect Green (s)		32.0	35.0							
Actuated g/C Ratio		0.38	0.41							

Lanes, Volumes, Timings
 953: NB Off Ramp (Crossover) & SR 421

Alternative 5
 Year 2042 PM Peak

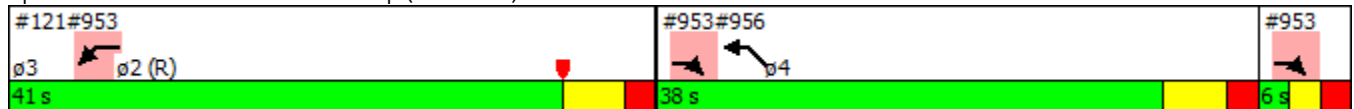


Lane Group	EBT	EBR	WBL	WBT	NWL	NWR	NEL	NER	ø3	ø4
v/c Ratio		1.42	1.30							
Control Delay		210.3	165.8							
Queue Delay		0.0	0.0							
Total Delay		210.3	165.8							
LOS		F	F							
Approach Delay										
Approach LOS										
Queue Length 50th (ft)		~1206	~658							
Queue Length 95th (ft)		#1559	#751							
Internal Link Dist (ft)	155			115	71		94			
Turn Bay Length (ft)										
Base Capacity (vph)		1977	2054							
Starvation Cap Reductn		0	0							
Spillback Cap Reductn		0	0							
Storage Cap Reductn		0	0							
Reduced v/c Ratio		1.42	1.30							

Intersection Summary

Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 85
 Offset: 0 (0%), Referenced to phase 2:NER, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay: 188.5
 Intersection LOS: F
 Intersection Capacity Utilization 118.8%
 ICU Level of Service H
 Analysis Period (min) 15
 * User Entered Value
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 953: NB Off Ramp (Crossover) & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 6
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	938	14	72	628	139	24	51	52	202	15	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1630	0
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1863	1863	1583	1863	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167			215			167		79	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	153	987	15	76	661	146	25	54	55	213	16	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.0	40.0	40.0	19.0	40.0	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	12.7%	26.7%	26.7%	12.7%	26.7%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	18.2	92.1	92.1	11.8	85.7	85.7	11.6	10.9	10.9	15.9	14.9	
Actuated g/C Ratio	0.12	0.61	0.61	0.08	0.57	0.57	0.08	0.07	0.07	0.11	0.10	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 6
Year 2042 AM Peak

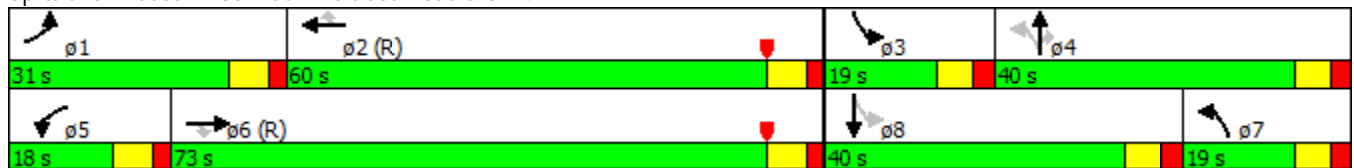


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.86	0.01	0.55	0.62	0.15	0.18	0.40	0.20	1.09	0.41	
Control Delay	80.9	35.2	0.0	80.6	26.9	0.5	66.5	75.0	1.7	148.2	24.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.9	35.2	0.0	80.6	26.9	0.5	66.5	75.0	1.7	148.2	24.0	
LOS	F	D	A	F	C	A	E	E	A	F	C	
Approach Delay		40.8			27.2			43.3			109.9	
Approach LOS		D			C			D			F	
Queue Length 50th (ft)	146	792	0	73	432	0	23	52	0	-276	15	
Queue Length 95th (ft)	217	#1233	0	125	659	2	55	98	0	#443	75	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	289	1144	1036	152	1064	996	157	416	483	196	425	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.86	0.01	0.50	0.62	0.15	0.16	0.13	0.11	1.09	0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 44.6
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 6
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔↔	↕↕	↔	↔↔	↕↕	↔↔	↔↔	↔↔	↕↔
Volume (vph)	331	766	140	632	539	1106	157	1607	1091	1113	746	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	1		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.977				0.850			0.850		0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				121			127		14	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			962			802			861	
Travel Time (s)		22.2			14.6			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	348	806	147	665	567	1164	165	1692	1148	1172	785	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	953	0	665	567	1164	165	1692	1148	1172	938	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	35.0	52.0		28.0	45.0	42.0	25.0	58.0	28.0	42.0	75.0	
Total Split (%)	19.4%	28.9%		15.6%	25.0%	23.3%	13.9%	32.2%	15.6%	23.3%	41.7%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	23.0	44.0		20.0	41.0	75.0	13.9	50.5	78.0	34.0	71.1	
Actuated g/C Ratio	0.13	0.24		0.11	0.23	0.42	0.08	0.28	0.43	0.19	0.40	

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 6
Year 2042 AM Peak

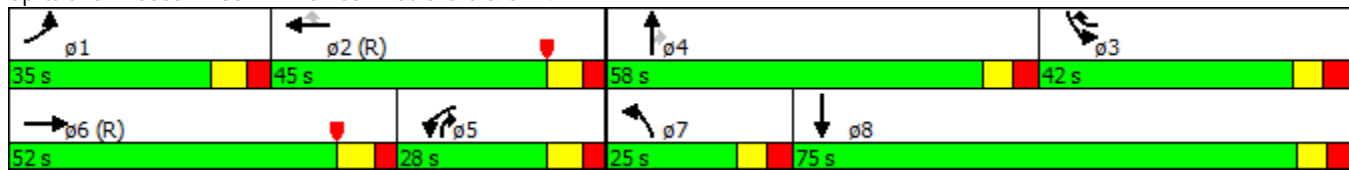


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.79	0.78		1.75	0.70	1.60	0.62	1.71	0.90	1.81	0.68	
Control Delay	89.5	67.2		379.6	56.3	296.1	90.7	358.7	52.2	407.1	47.9	
Queue Delay	0.0	0.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.5	67.7		379.6	56.3	296.1	90.7	358.7	52.2	407.1	47.9	
LOS	F	E		F	E	F	F	F	D	F	D	
Approach Delay		73.6			262.5			226.9			247.4	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	208	382		~589	238	~1873	99	~1538	652	~1068	477	
Queue Length 95th (ft)	263	438		#725	369	#2191	140	#1672	774	#1207	576	
Internal Link Dist (ft)		1388			882			722			781	
Turn Bay Length (ft)	280			460			205		590	690		
Base Capacity (vph)	514	1228		381	805	729	333	992	1279	648	1372	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	64		0	0	0	0	0	1	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.68	0.82		1.75	0.70	1.60	0.50	1.71	0.90	1.81	0.68	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 218.9
 Intersection LOS: F
 Intersection Capacity Utilization 141.9%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 NB Ramps/I-95 SB Ramps & SR 421

Alternative 6
Year 2042 AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	728	1902	340	277	1334	887	398	0	524	831	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		400	600		600	600		0	0		310
Storage Lanes	2		1	2		1	2		2	2		2
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	0.88	0.97	1.00	0.88
Ped Bike Factor												
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	0	2787	3433	0	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	0	2787	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			294			576			548			455
Link Speed (mph)		45			50			30				30
Link Distance (ft)		962			970			851				764
Travel Time (s)		14.6			13.2			19.3				17.4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	766	2002	358	292	1404	934	419	0	552	875	0	574
Shared Lane Traffic (%)												
Lane Group Flow (vph)	766	2002	358	292	1404	934	419	0	552	875	0	574
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7			3		
Permitted Phases			6			2			7			3
Detector Phase	1	6	6	5	2	2	7		7	3		3
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Minimum Split (s)	13.8	25.8	25.8	13.8	25.8	25.8	13.8		13.8	25.8		25.8
Total Split (s)	51.0	88.0	88.0	37.0	74.0	74.0	55.0		55.0	55.0		55.0
Total Split (%)	28.3%	48.9%	48.9%	20.6%	41.1%	41.1%	30.6%		30.6%	30.6%		30.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
All-Red Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	9.8	9.8	9.8	9.8	9.8	9.8	9.8		9.8	9.8		9.8
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None		None
Act Effect Green (s)	41.2	78.2	78.2	27.2	64.2	64.2	45.2		45.2	45.2		45.2
Actuated g/C Ratio	0.23	0.43	0.43	0.15	0.36	0.36	0.25		0.25	0.25		0.25

Lanes, Volumes, Timings
 303: I-95 NB Ramps/I-95 SB Ramps & SR 421

Alternative 6
 Year 2042 AM Peak

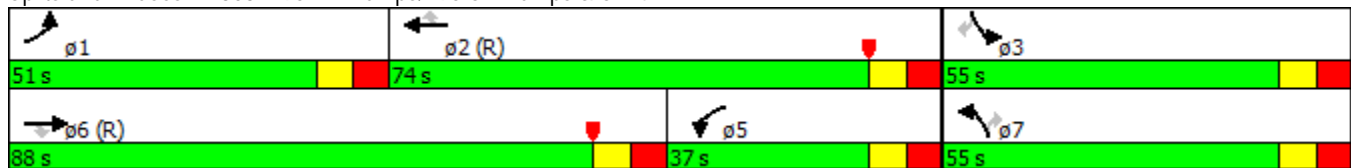


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.98	0.91	0.42	0.56	0.77	1.00	0.49		0.50	1.02		0.55
Control Delay	61.8	33.4	1.7	75.6	55.0	50.6	59.8		5.5	99.5		13.8
Queue Delay	0.0	0.7	0.0	0.0	0.2	0.0	0.0		0.0	0.0		0.0
Total Delay	61.8	34.1	1.7	75.6	55.2	50.6	59.8		5.5	99.5		13.8
LOS	E	C	A	E	E	D	E		A	F		B
Approach Delay		37.2			55.8							
Approach LOS		D			E							
Queue Length 50th (ft)	422	716	11	167	542	608	220		2	-559		63
Queue Length 95th (ft)	m358	m643	m4	221	601	#947	278		55	#696		133
Internal Link Dist (ft)		882			890			771			684	
Turn Bay Length (ft)	150		400	600		600	600					310
Base Capacity (vph)	785	2209	853	518	1814	935	862		1110	862		1040
Starvation Cap Reductn	0	51	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0	53	0	0		0	0		4
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.98	0.93	0.42	0.56	0.80	1.00	0.49		0.50	1.02		0.55

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 47.2 Intersection LOS: D
 Intersection Capacity Utilization 98.5% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 NB Ramps/I-95 SB Ramps & SR 421



Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 6
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	999	32	64	1074	72	22	20	31	84	48	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%				0%
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850		0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.206			0.638		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	384	1863	1583	1188	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			162
Link Speed (mph)		30			45			25				25
Link Distance (ft)		248			1468			287				321
Travel Time (s)		5.6			22.2			7.8				8.8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	51	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	320	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	16.0	84.5	84.5	13.5	82.0	82.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.7%	56.3%	56.3%	9.0%	54.7%	54.7%	8.3%	26.3%	26.3%	8.3%	26.3%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effect Green (s)	9.5	93.4	93.4	7.0	90.9	90.9	24.0	20.0	20.0	26.2	22.6	
Actuated g/C Ratio	0.06	0.62	0.62	0.05	0.61	0.61	0.16	0.13	0.13	0.17	0.15	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

Alternative 6
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.12	0.91	0.03	0.82	1.00	0.08	0.20	0.08	0.10	0.38	0.84	
Control Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
LOS	F	D	A	F	E	A	D	D	A	D	D	
Approach Delay		52.9			57.9			28.3			49.3	
Approach LOS		D			E			C			D	
Queue Length 50th (ft)	~142	915	0	66	~1198	0	18	18	0	71	159	
Queue Length 95th (ft)	#280	#1410	0	#160	#1604	5	40	41	0	111	257	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	112	1160	1031	82	1129	1006	116	409	441	233	484	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.13	0.91	0.03	0.82	1.00	0.08	0.20	0.05	0.07	0.38	0.66	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 53.9
 Intersection LOS: D
 Intersection Capacity Utilization 97.7%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 6
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	125	833	156	984	1045	1062	137	687	610	1212	1532	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	1		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Ped Bike Factor												
Frt		0.976				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				121			127		10	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			962			802			861	
Travel Time (s)		22.2			14.6			12.2			13.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	132	877	164	1036	1100	1118	144	723	642	1276	1613	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	1041	0	1036	1100	1118	144	723	642	1276	1853	0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	17.0	53.0		39.0	75.0	43.0	14.0	45.0	39.0	43.0	74.0	
Total Split (%)	9.4%	29.4%		21.7%	41.7%	23.9%	7.8%	25.0%	21.7%	23.9%	41.1%	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Act Effect Green (s)	9.0	45.0		31.0	67.0	102.0	6.5	37.5	76.0	35.0	66.5	
Actuated g/C Ratio	0.05	0.25		0.17	0.37	0.57	0.04	0.21	0.42	0.19	0.37	

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

Alternative 6
Year 2042 PM Peak

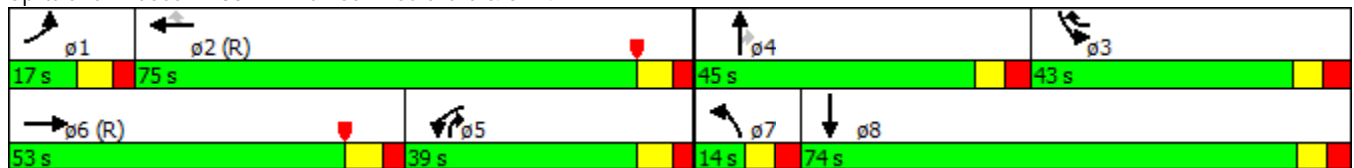


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.77	0.83		1.75	0.84	1.18	1.17	0.98	0.51	1.91	1.44	
Control Delay	111.6	69.3		373.6	34.4	106.5	203.1	98.4	31.7	451.2	241.3	
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	111.6	69.4		373.6	34.4	106.5	203.1	98.4	31.7	451.2	241.3	
LOS	F	E		F	C	F	F	F	C	F	F	
Approach Delay		74.1			167.2			80.0			326.9	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	80	423		~927	421	~1102	~103	453	254	~1187	~1559	
Queue Length 95th (ft)	#137	482		m#914	m422	m#1069	#185	#592	322	#1324	#1689	
Internal Link Dist (ft)		1388			882			722			781	
Turn Bay Length (ft)	280			460			205		590	690		
Base Capacity (vph)	171	1255		591	1317	949	123	737	1250	667	1289	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	6		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.77	0.83		1.75	0.84	1.18	1.17	0.98	0.51	1.91	1.44	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 20 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.91
 Intersection Signal Delay: 195.8
 Intersection LOS: F
 Intersection Capacity Utilization 127.5%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 NB Ramps/I-95 SB Ramps & SR 421

Alternative 6
Year 2042 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	551	1775	329	512	2032	756	344	0	374	886	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		400	600		600	600		0	0		310
Storage Lanes	2		1	2		1	2		2	2		2
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	0.88	0.97	1.00	0.88
Ped Bike Factor												
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	0	2787	3433	0	2787
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	0	2787	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			294			659			394			577
Link Speed (mph)		45			50			30				30
Link Distance (ft)		962			970			851				764
Travel Time (s)		14.6			13.2			19.3				17.4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	580	1868	346	539	2139	796	362	0	394	933	0	753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	580	1868	346	539	2139	796	362	0	394	933	0	753
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2		7			3		
Permitted Phases			6			2			7			3
Detector Phase	1	6	6	5	2	2	7		7	3		3
Switch Phase												
Minimum Initial (s)	4.0	15.0	15.0	5.0	15.0	15.0	4.0		4.0	10.0		10.0
Minimum Split (s)	13.8	24.8	24.8	14.8	29.8	29.8	13.8		13.8	18.8		18.8
Total Split (s)	42.0	84.6	84.6	37.4	80.0	80.0	58.0		58.0	58.0		58.0
Total Split (%)	23.3%	47.0%	47.0%	20.8%	44.4%	44.4%	32.2%		32.2%	32.2%		32.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	4.0		4.0
All-Red Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8		4.8	4.8		4.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	9.8	9.8	9.8	9.8	9.8	9.8	9.8		9.8	8.8		8.8
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None		None
Act Effect Green (s)	31.9	74.8	74.8	27.6	70.5	70.5	48.2		48.2	49.2		49.2
Actuated g/C Ratio	0.18	0.42	0.42	0.15	0.39	0.39	0.27		0.27	0.27		0.27

Lanes, Volumes, Timings
303: I-95 NB Ramps/I-95 SB Ramps & SR 421

Alternative 6
Year 2042 PM Peak

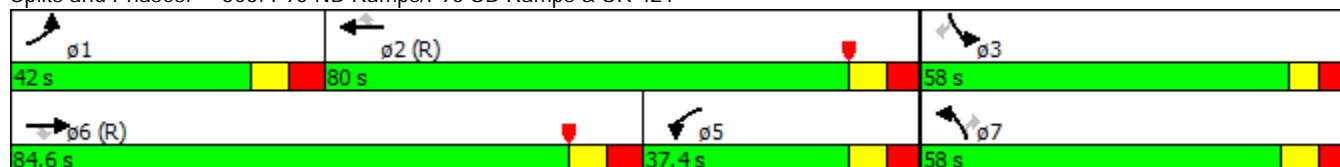


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.95	0.88	0.42	1.02	1.07	0.78	0.39		0.38	0.99		0.64
Control Delay	81.4	32.7	2.3	78.4	66.8	14.2	55.5		5.2	92.1		15.1
Queue Delay	0.0	0.0	0.0	0.0	10.9	6.2	0.0		0.0	0.0		0.0
Total Delay	81.4	32.8	2.3	78.4	77.7	20.4	55.5		5.2	92.1		15.1
LOS	F	C	A	E	E	C	E		A	F		B
Approach Delay		39.1			64.7							
Approach LOS		D			E							
Queue Length 50th (ft)	309	690	13	~345	~1023	510	182		0	572		100
Queue Length 95th (ft)	m251	m402	m13	m#373	m#1101	m294	234		47	#722		181
Internal Link Dist (ft)		882			890			771			684	
Turn Bay Length (ft)	150		400	600		600	600					310
Base Capacity (vph)	614	2113	829	526	1991	1021	919		1034	938		1181
Starvation Cap Reductn	0	6	0	0	0	177	0		0	0		0
Spillback Cap Reductn	0	0	0	0	48	0	0		0	0		5
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.94	0.89	0.42	1.02	1.10	0.94	0.39		0.38	0.99		0.64

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 12 (7%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 52.0 Intersection LOS: D
 Intersection Capacity Utilization 103.9% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 303: I-95 NB Ramps/I-95 SB Ramps & SR 421



Appendix I
No Build and Build Analysis Worksheets

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM No Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	3549	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	934	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1289	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1289	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.1	mi/h
Number of lanes, N	3	
Density, D	17.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM No Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	2855	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	751	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1037	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1037	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM No Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2857	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	752	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1038	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1038	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM No Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3517	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	926	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1277	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1277	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.2	mi/h
Number of lanes, N	3	
Density, D	17.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2574	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	677	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	935	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	935	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2106	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	554	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	765	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	765	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2106	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	554	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	765	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	765	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2574	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	677	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	935	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	935	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2821	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	742	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1024	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1024	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.7	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2316	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	609	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	841	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	841	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	11.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2361	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	621	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	857	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	857	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	11.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2936	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	773	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1066	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1066	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	14.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	4533	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1193	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1646	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1646	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.4	mi/h
Number of lanes, N	3	
Density, D	23.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM No Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3801	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1000	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1380	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1380	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.4	mi/h
Number of lanes, N	3	
Density, D	18.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM No Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3779	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	994	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1372	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1372	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.5	mi/h
Number of lanes, N	3	
Density, D	18.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM No Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4659	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1226	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1692	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1692	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	69.7	mi/h
Number of lanes, N	3	
Density, D	24.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
 E-mail:

-----Operational Analysis-----

Analyst: RN
 Agency or Company: GMB
 Date Performed: 7/17/2014
 Analysis Time Period: AM NO BUILD
 Freeway/Direction: I-95 NB
 From/To: SOUTH OF SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	938	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1294	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1294	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.0	mi/h
Number of lanes, N	3	
Density, D	17.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2916	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	767	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1059	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1059	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	14.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2916	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	767	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1059	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1059	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	14.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	938	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1294	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1294	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.0	mi/h
Number of lanes, N	3	
Density, D	17.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3830	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1008	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1391	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1391	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.3	mi/h
Number of lanes, N	3	
Density, D	19.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3208	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	844	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1165	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1165	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.7	mi/h
Number of lanes, N	3	
Density, D	15.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3243	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	853	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1178	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1178	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.6	mi/h
Number of lanes, N	3	
Density, D	15.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
 E-mail:

----- Operational Analysis -----

Analyst: RN
 Agency or Company: GMB
 Date Performed: 7/17/2014
 Analysis Time Period: PM BUILD
 Freeway/Direction: I-95 SB
 From/To: SOUTH OF SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	4006	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1054	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1455	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1455	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.7	mi/h
Number of lanes, N	3	
Density, D	20.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM No Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	5569	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1466	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	2022	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	2022	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	3	
Density, D	31.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM No Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4981	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1311	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1809	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1809	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	67.8	mi/h
Number of lanes, N	3	
Density, D	26.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM No Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	4700	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1237	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1707	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1707	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	69.5	mi/h
Number of lanes, N	3	
Density, D	24.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM No Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	5929	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1560	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	2153	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	2153	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	60.3	mi/h
Number of lanes, N	3	
Density, D	35.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4604	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1212	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1672	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1672	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	3766	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	991	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1368	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1368	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.5	mi/h
Number of lanes, N	3	
Density, D	18.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3766	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	991	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1368	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1368	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.5	mi/h
Number of lanes, N	3	
Density, D	18.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4604	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1212	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1672	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1672	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	4876	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1283	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1771	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1771	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	68.4	mi/h
Number of lanes, N	3	
Density, D	25.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	4222	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1111	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1533	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1533	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	71.9	mi/h
Number of lanes, N	3	
Density, D	21.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
 E-mail:

-----Operational Analysis-----

Analyst: RN
 Agency or Company: GMB
 Date Performed: 7/17/2014
 Analysis Time Period: PM NO BUILD
 Freeway/Direction: I-95 NB
 From/To: SOUTH OF SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4111	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1082	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1493	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1493	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.3	mi/h
Number of lanes, N	3	
Density, D	20.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM NO BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	5169	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1360	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1877	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1877	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	66.5	mi/h
Number of lanes, N	3	
Density, D	28.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	3559	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	937	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1292	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1292	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.1	mi/h
Number of lanes, N	3	
Density, D	17.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2809	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	739	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1020	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1020	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2782	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	732	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1010	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1010	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3504	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	922	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1273	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1273	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.2	mi/h
Number of lanes, N	3	
Density, D	17.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 NB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2817	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	741	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1023	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1023	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2313	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	609	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	840	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	840	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	11.2	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2285	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	601	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	830	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	830	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	11.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2919	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	768	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1060	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1060	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	14.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2574	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	677	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	935	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	935	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2106	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	554	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	765	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	765	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2106	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	554	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	765	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	765	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	10.2	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2574	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	677	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	935	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	935	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2875	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	757	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1044	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1044	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	13.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2363	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	622	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	858	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	858	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	11.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	2332	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	614	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	847	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	847	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	11.3	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2983	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	785	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1083	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1083	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.9	mi/h
Number of lanes, N	3	
Density, D	14.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4598	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1210	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1670	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1670	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	3	
Density, D	23.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3718	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	978	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1350	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1350	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.6	mi/h
Number of lanes, N	3	
Density, D	18.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3753	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	988	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1363	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1363	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.5	mi/h
Number of lanes, N	3	
Density, D	18.5	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4607	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1212	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1673	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1673	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 NB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3851	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1013	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1399	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1399	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.2	mi/h
Number of lanes, N	3	
Density, D	19.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3160	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	832	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1148	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1148	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.8	mi/h
Number of lanes, N	3	
Density, D	15.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3212	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	845	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1166	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1166	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.7	mi/h
Number of lanes, N	3	
Density, D	15.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3941	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1037	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1431	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1431	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.9	mi/h
Number of lanes, N	3	
Density, D	19.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	938	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1294	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1294	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.0	mi/h
Number of lanes, N	3	
Density, D	17.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2916	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	767	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1059	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1059	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	14.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	2916	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	767	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1059	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1059	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	75.0	mi/h
Number of lanes, N	3	
Density, D	14.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	938	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1294	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1294	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.0	mi/h
Number of lanes, N	3	
Density, D	17.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3977	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1047	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1444	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1444	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.8	mi/h
Number of lanes, N	3	
Density, D	19.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3272	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	861	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1188	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1188	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.6	mi/h
Number of lanes, N	3	
Density, D	15.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3305	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	870	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1200	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1200	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	74.6	mi/h
Number of lanes, N	3	
Density, D	16.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4078	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1073	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1481	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1481	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.4	mi/h
Number of lanes, N	3	
Density, D	20.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	5703	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1501	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	2071	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	2071	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	62.3	mi/h
Number of lanes, N	3	
Density, D	33.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4719	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1242	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1714	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1714	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	69.4	mi/h
Number of lanes, N	3	
Density, D	24.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM Build
Freeway/Direction: I-95 NB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4761	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1253	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1729	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1729	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	69.1	mi/h
Number of lanes, N	3	
Density, D	25.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM Build
Freeway/Direction: I-95 SB
From/To: NORTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	5834	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1535	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	2119	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	2119	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	61.1	mi/h
Number of lanes, N	3	
Density, D	34.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM Build
Freeway/Direction: I-95 NB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4915	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1293	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1785	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1785	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	68.2	mi/h
Number of lanes, N	3	
Density, D	26.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4067	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1070	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1477	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1477	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.5	mi/h
Number of lanes, N	3	
Density, D	20.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF PIONEER TRAIL
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4137	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1089	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1502	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1502	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	72.2	mi/h
Number of lanes, N	3	
Density, D	20.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
 Agency or Company: GMB
 Date Performed: 7/17/2014
 Analysis Time Period: PM BUILD
 Freeway/Direction: I-95 SB
 From/To: SOUTH OF PIONEER TRAIL
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	5025	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1322	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1825	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1825	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	67.5	mi/h
Number of lanes, N	3	
Density, D	27.1	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4604	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1212	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1672	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1672	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	3766	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	991	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1368	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1368	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.5	mi/h
Number of lanes, N	3	
Density, D	18.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	3766	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	991	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1368	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1368	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	73.5	mi/h
Number of lanes, N	3	
Density, D	18.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4604	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1212	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1672	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1672	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	3	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	5109	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1344	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1855	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1855	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	66.9	mi/h
Number of lanes, N	3	
Density, D	27.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: AM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	4233	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1114	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1537	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1537	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	71.8	mi/h
Number of lanes, N	3	
Density, D	21.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

----- Operational Analysis -----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 NB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

----- Flow Inputs and Adjustments -----

Volume, V	4279	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1126	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1554	pc/h/ln

----- Speed Inputs and Adjustments -----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

----- LOS and Performance Measures -----

Flow rate, vp	1554	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	71.6	mi/h
Number of lanes, N	3	
Density, D	21.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Operational Analysis-----

Analyst: RN
Agency or Company: GMB
Date Performed: 7/17/2014
Analysis Time Period: PM BUILD
Freeway/Direction: I-95 SB
From/To: SOUTH OF SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Flow Inputs and Adjustments-----

Volume, V	5247	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1381	v
Trucks and buses	7	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.966	
Driver population factor, fp	1.00	
Flow rate, vp	1905	pc/h/ln

-----Speed Inputs and Adjustments-----

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	75.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	75.0	mi/h

-----LOS and Performance Measures-----

Flow rate, vp	1905	pc/h/ln
Free-flow speed, FFS	75.0	mi/h
Average passenger-car speed, S	65.9	mi/h
Number of lanes, N	3	
Density, D	28.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2574	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	533	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2574	533		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	677	140		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2804	581	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.663 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2055$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2804	7200	No
$v_{FO} = v_F - v_R$	2223	7200	No
v_R	581	2100	No
v_3 or v_{av34}	749 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2055$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2055	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 19.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.415	
Space mean speed in ramp influence area,	S _R = 61.3	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 65.8	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM No Build
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	2106	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	40.0	mph
Volume on ramp	472	vph
Length of first accel/decel lane	220	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2106	472		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	554	124		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2294	514	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.679 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1723$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2294	7200	No
$v_{FO} = v_F - v_R$	1780	7200	No
v_R	514	2100	No
v_3 or v_{av34}	571 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1723$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1723	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 17.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.409	
Space mean speed in ramp influence area,	S _R = 61.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 65.6	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2041	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	780	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2041	780		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	537	205		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2224	850	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1299 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3074	7200	No
FO			
v or v	925 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1299	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2149	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.335	
	S	
Space mean speed in ramp influence area,	S = 63.9	mph
	R	
Space mean speed in outer lanes,	S = 73.5	mph
	0	
Space mean speed for all vehicles,	S = 66.5	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1634	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	727	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1634	727		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	430	191		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1780	792	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1040 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2572	7200	No
FO			
v or v	740 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1040	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1832	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 17.9 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.326	
	S	
Space mean speed in ramp influence area,	S = 64.2	mph
	R	
Space mean speed in outer lanes,	S = 74.1	mph
	0	
Space mean speed for all vehicles,	S = 66.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2143	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	486	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	449	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2143	486	449	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	564	128	118	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2335	529	489	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.677 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1752 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2335	7200	No
$v_{FO} = v_F - v_R$	1806	7200	No
v_R	529	1900	No
$v_3 \text{ or } v_{av34}$	583 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1752$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1752	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 16.5 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.606	
Space mean speed in ramp influence area,	S _R = 55.0	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 60.0	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2316	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	173	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2316	173		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	609	46		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2523	188	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.688 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1795$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2523	7200	No
$v_{FO} = v_F - v_R$	2335	7200	No
v_R	188	2100	No
v_3 or v_{av34}	728 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1795$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1795	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 17.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.380	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.1	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2760	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	714	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	528	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	2760		714		528	vph
Peak-hour factor, PHF	0.95		0.95		0.95	
Peak 15-min volume, v15	726		188		139	v
Trucks and buses	7		7		7	%
Recreational vehicles	0		0		0	%
Terrain type:	Level		Level		Level	
Grade	0.00	%	0.00	%	0.00	%
Length	0.00	mi	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5		1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2		1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3007	778	575	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.649 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2225 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3007	7200	No
$v_{FO} = v_F - v_R$	2229	7200	No
v_R	778	1900	No
$v_3 \text{ or } v_{av34}$	782 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2225$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2225	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.6 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.628	
Space mean speed in ramp influence area,	S _R = 54.3	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 59.5	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2936	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	176	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2936	176		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	773	46		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3199	192	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.671 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2210$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3199	7200	No
$v_{FO} = v_F - v_R$	3007	7200	No
v_R	192	2100	No
v_3 or v_{av34}	989 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2210$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2210	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.380	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.5	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1657	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	449	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	486	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1657	449	486	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	436	118	128	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1805	489	529	pcph

----- Estimation of V12 Merge Areas -----

L = 451.56 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1073 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2294	7200	No
FO			
v or v	732 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1073	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1562	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.6 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.291	
	S	
Space mean speed in ramp influence area,	S = 65.4	mph
	R	
Space mean speed in outer lanes,	S = 74.2	mph
	0	
Space mean speed for all vehicles,	S = 68.0	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2046	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	528	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	714	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2046	528	714	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	538	139	188	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2229	575	778	pcph

----- Estimation of V12 Merge Areas -----

L = 560.70 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1325 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2804	7200	No
FO			
v or v	904 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1325	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1900	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.2 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.298	
	S	
Space mean speed in ramp influence area,	S = 65.2	mph
	R	
Space mean speed in outer lanes,	S = 73.5	mph
	0	
Space mean speed for all vehicles,	S = 67.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2821	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	539	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2821	539		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	742	142		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3073	587	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.656 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2218$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3073	7200	No
$v_{FO} = v_F - v_R$	2486	7200	No
v_R	587	2100	No
v_3 or v_{av34}	855 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2218$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2218	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.416	
Space mean speed in ramp influence area,	S _R = 61.3	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 66.0	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2361	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	413	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2361	413		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	621	109		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2572	450	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.675 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1882$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2572	7200	No
$v_{FO} = v_F - v_R$	2122	7200	No
v_R	450	2100	No
v_3 or v_{av34}	690 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1882$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1882	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 18.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable, D = 0.404

Space mean speed in ramp influence area, S_R = 61.7 mph

Space mean speed in outer lanes, S₀ = 82.3 mph

Space mean speed for all vehicles, S = 66.1 mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2282	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1267	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2282	1267		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	601	333		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2486	1380	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1450 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3866	7200	No
FO			
v or v	1036 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1450	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2830	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.6 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.370	
	S	
Space mean speed in ramp influence area,	S = 62.8	mph
	R	
Space mean speed in outer lanes,	S = 73.1	mph
	0	
Space mean speed for all vehicles,	S = 65.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1948	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	909	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1948	909		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	513	239		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2122	990	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1238 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3112	7200	No
FO			
v or v	884 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1238	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2228	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.1 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.340	
	S	
Space mean speed in ramp influence area,	S = 63.8	mph
	R	
Space mean speed in outer lanes,	S = 73.6	mph
	0	
Space mean speed for all vehicles,	S = 66.3	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2855	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	951	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2855	951		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	751	250		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3110	1036	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.635 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2352$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3110	7200	No
$v_{FO} = v_F - v_R$	2074	7200	No
v_R	1036	2100	No
v_3 or v_{av34}	758 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2352$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2352	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 22.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.456	
Space mean speed in ramp influence area,	S _R = 59.9	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 64.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3517	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1086	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3517	1086		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	926	286		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3832	1183	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.610 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2798$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	3832	7200	No
$v_{FO} = v_F - v_R$	2649	7200	No
v_R	1183	2100	No
v_3 or v_{av34}	1034 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2798$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2798	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.5$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.469	
Space mean speed in ramp influence area,	S _R = 59.5	mph
Space mean speed in outer lanes,	S ₀ = 82.1	mph
Space mean speed for all vehicles,	S = 64.3	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1904	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	412	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1904	412		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	501	108		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2074	449	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 1212 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2523	7200	No
FO			
v or v	862 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1212	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1661	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.7 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.322	
	S	
Space mean speed in ramp influence area,	S = 64.4	mph
	R	
Space mean speed in outer lanes,	S = 73.7	mph
	0	
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2431	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	505	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2431	505		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	640	133		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2649	550	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 1548 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3199	7200	No
FO			
v or v	1101 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1548	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2098	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.0+ pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.333	
	S	
Space mean speed in ramp influence area,	S = 64.0	mph
	R	
Space mean speed in outer lanes,	S = 72.8	mph
	0	
Space mean speed for all vehicles,	S = 66.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3564	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	808	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3564	808		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	938	213		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3883	880	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.622 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2749$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3883	7200	No
$v_{FO} = v_F - v_R$	3003	7200	No
v_R	880	2100	No
v_3 or v_{av34}	1134 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2749$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2749	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.442	
Space mean speed in ramp influence area,	S _R = 60.4	mph
Space mean speed in outer lanes,	S ₀ = 81.8	mph
Space mean speed for all vehicles,	S = 65.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM No Build
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2916	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	674	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2916	674		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	767	177		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3177	734	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.647 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2314$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3177	7200	No
$v_{FO} = v_F - v_R$	2443	7200	No
v_R	734	2100	No
v_3 or v_{av34}	863 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2314$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2314	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 22.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.429	
Space mean speed in ramp influence area,	S _R = 60.8	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 65.5	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2756	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1074	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2756	1074		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	725	283		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	%
Length	mi	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3003	1170	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1754 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4173	7200	No
FO			
v or v	1249 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1754	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2924	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.2 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.374	
	S	
Space mean speed in ramp influence area,	S = 62.6	mph
	R	
Space mean speed in outer lanes,	S = 72.3	mph
	0	
Space mean speed for all vehicles,	S = 65.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2242	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1001	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2242	1001		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	590	263		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2443	1091	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1427 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3534	7200	No
FO			
v or v	1016 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1427	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2518	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 23.1 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.350	
	S	
Space mean speed in ramp influence area,	S = 63.4	mph
	R	
Space mean speed in outer lanes,	S = 73.1	mph
	0	
Space mean speed for all vehicles,	S = 66.0	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2858	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	587	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	645	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2858	587	645	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	752	154	170	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3114	640	703	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.653 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2255$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3114	7200	No
$v_{FO} = v_F - v_R$	2474	7200	No
v_R	640	1900	No
v_3 or v_{av34}	859 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2255$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2255	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.616	
Space mean speed in ramp influence area,	S _R = 54.7	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 60.3	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3208	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	350	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3208	350		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	844	92		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3495	381	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.655 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2421 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3495	7200	No
$v_{FO} = v_F - v_R$	3114	7200	No
v_R	381	2100	No
$v_3 \text{ or } v_{av34}$	1074 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2421$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2421	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 23.0 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.397	
Space mean speed in ramp influence area,	S _R = 61.9	mph
Space mean speed in outer lanes,	S ₀ = 82.0	mph
Space mean speed for all vehicles,	S = 66.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3669	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	867	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	762	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3669	867	762	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	966	228	201	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3997	945	830	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.617 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2827 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	3997	7200	No
$v_{FO} = v_F - v_R$	3052	7200	No
v_R	945	1900	No
$v_3 \text{ or } v_{av34}$	1170 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2827$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2827	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.7 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.643	
Space mean speed in ramp influence area,	S _R = 53.8	mph
Space mean speed in outer lanes,	S ₀ = 81.6	mph
Space mean speed for all vehicles,	S = 59.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4006	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	337	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4006	337		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1054	89		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4364	367	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.634 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2901$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4364	7200	No
$v_{FO} = v_F - v_R$	3997	7200	No
v_R	367	2100	No
v_3 or v_{av34}	1463 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2901$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2901	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 27.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.396	
Space mean speed in ramp influence area,	S _R = 61.9	mph
Space mean speed in outer lanes,	S ₀ = 80.5	mph
Space mean speed for all vehicles,	S = 67.1	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2271	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	645	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	587	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2271	645	587	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	598	170	154	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2474	703	640	pcph

----- Estimation of V12 Merge Areas -----

L = 640.52 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1471 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3177	7200	No
FO			
v or v	1003 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1471	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2174	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 18.3 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.306	
	S	
Space mean speed in ramp influence area,	S = 64.9	mph
	R	
Space mean speed in outer lanes,	S = 73.2	mph
	0	
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	2802	vph

-----On Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	762	vph
Length of first accel/decel lane	610	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	867	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1300	ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2802	762	867	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	737	201	228	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3053	830	945	pcph

----- Estimation of V12 Merge Areas -----

L = 791.60 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1815 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3883	7200	No
FO			
v or v	1238 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1815	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2645	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.9 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.327	
	S	
Space mean speed in ramp influence area,	S = 64.2	mph
	R	
Space mean speed in outer lanes,	S = 72.3	mph
	0	
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3830	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	731	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3830	731		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1008	192		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4173	796	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.619 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2887$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4173	7200	No
$v_{FO} = v_F - v_R$	3377	7200	No
v_R	796	2100	No
v_3 or v_{av34}	1286 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2887$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2887	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.435	
Space mean speed in ramp influence area,	S _R = 60.7	mph
Space mean speed in outer lanes,	S ₀ = 81.2	mph
Space mean speed for all vehicles,	S = 65.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3243	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	565	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3243	565		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	853	149		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3533	616	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.643 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2493$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3533	7200	No
$v_{FO} = v_F - v_R$	2917	7200	No
v_R	616	2100	No
v_3 or v_{av34}	1040 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2493$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2493	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 23.4$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.418	
Space mean speed in ramp influence area,	S _R = 61.2	mph
Space mean speed in outer lanes,	S ₀ = 82.1	mph
Space mean speed for all vehicles,	S = 66.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3099	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1434	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3099	1434		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	816	377		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	%
Length	mi	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3376	1562	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1969 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4938	7200	No
FO			
v or v	1407 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1969	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3531	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 31.0 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.437	
	S	
Space mean speed in ramp influence area,	S = 60.6	mph
	R	
Space mean speed in outer lanes,	S = 71.7	mph
	0	
Space mean speed for all vehicles,	S = 63.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2678	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1101	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2678	1101		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	705	290		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2918	1200	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1702 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4118	7200	No
FO			
v or v	1216 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1702	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2902	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.2 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.375	
	S	
Space mean speed in ramp influence area,	S = 62.6	mph
	R	
Space mean speed in outer lanes,	S = 72.4	mph
	0	
Space mean speed for all vehicles,	S = 65.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3801	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1154	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3801	1154		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1000	304		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4141	1257	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.599 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2984 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4141	7200	No
$v_{FO} = v_F - v_R$	2884	7200	No
v_R	1257	2100	No
$v_3 \text{ or } v_{av34}$	1157 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2984$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2984	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 28.1 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.476	
Space mean speed in ramp influence area,	S _R = 59.3	mph
Space mean speed in outer lanes,	S ₀ = 81.7	mph
Space mean speed for all vehicles,	S = 64.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4659	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1335	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4659	1335		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1226	351		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5076	1454	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.566 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3505$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5076	7200	No
$v_{FO} = v_F - v_R$	3622	7200	No
v_R	1454	2100	No
v_3 or v_{av34}	1571 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3505$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3505	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 32.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.494	
Space mean speed in ramp influence area,	S _R = 58.7	mph
Space mean speed in outer lanes,	S ₀ = 80.0	mph
Space mean speed for all vehicles,	S = 64.0	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2647	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	561	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2647	561		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	697	148		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2884	611	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 1686 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3495	7200	No
FO			
v or v	1198 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1686	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2297	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.5 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.340	
	S	
Space mean speed in ramp influence area,	S = 63.8	mph
	R	
Space mean speed in outer lanes,	S = 72.5	mph
	0	
Space mean speed for all vehicles,	S = 66.5	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3324	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	682	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3324	682		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	875	179		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3621	743	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 2116 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4364	7200	No
FO			
v or v	1505 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2116	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2859	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.9 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.369	
	S	
Space mean speed in ramp influence area,	S = 62.8	mph
	R	
Space mean speed in outer lanes,	S = 71.4	mph
	0	
Space mean speed for all vehicles,	S = 65.5	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4604	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1058	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4604	1058		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1212	278		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5016	1153	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.582 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3400$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5016	7200	No
$v_{FO} = v_F - v_R$	3863	7200	No
v_R	1153	2100	No
v_3 or v_{av34}	1616 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3400$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3400	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 31.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.467	
Space mean speed in ramp influence area,	S _R = 59.6	mph
Space mean speed in outer lanes,	S ₀ = 79.9	mph
Space mean speed for all vehicles,	S = 64.9	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM No Build
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3766	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	847	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3766	847		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	991	223		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4103	923	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.615 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2879$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4103	7200	No
$v_{FO} = v_F - v_R$	3180	7200	No
v_R	923	2100	No
v_3 or v_{av34}	1224 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2879$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2879	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 27.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.446	
Space mean speed in ramp influence area,	S _R = 60.3	mph
Space mean speed in outer lanes,	S ₀ = 81.4	mph
Space mean speed for all vehicles,	S = 65.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3546	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1330	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3546	1330		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	933	350		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3863	1449	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 2257 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5312	7200	No
FO			
v or v	1606 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2257	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3706	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 32.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.460	
	S	
Space mean speed in ramp influence area,	S = 59.8	mph
	R	
Space mean speed in outer lanes,	S = 71.0	mph
	0	
Space mean speed for all vehicles,	S = 62.8	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2919	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1192	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2919	1192		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	768	314		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3180	1299	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1858 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4479	7200	No
FO			
v or v	1322 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1858	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3157	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 28.0- pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.393	
	S	
Space mean speed in ramp influence area,	S = 62.0	mph
	R	
Space mean speed in outer lanes,	S = 72.0	mph
	0	
Space mean speed for all vehicles,	S = 64.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3673	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	677	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	770	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3673	677	770	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	967	178	203	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4002	738	839	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.626 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2781$ pc/h
FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4002	7200	No
$v_{FO} = v_F - v_R$	3264	7200	No
v_R	738	1900	No
v_3 or v_{av34}	1221 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2781$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2781	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.3$ pc/mi/ln
Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.624	
Space mean speed in ramp influence area,	S _R = 54.4	mph
Space mean speed in outer lanes,	S ₀ = 81.4	mph
Space mean speed for all vehicles,	S = 60.5	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4222	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	549	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4222	549		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1111	144		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4600	598	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.617 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3069$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4600	7200	No
$v_{FO} = v_F - v_R$	4002	7200	No
v_R	598	2100	No
v_3 or v_{av34}	1531 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3069$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3069	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 28.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.417	
Space mean speed in ramp influence area,	S _R = 61.2	mph
Space mean speed in outer lanes,	S ₀ = 80.2	mph
Space mean speed for all vehicles,	S = 66.5	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4658	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	1007	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	953	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4658	1007	953	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1226	265	251	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	5075	1097	1038	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.583 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3415$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5075	7200	No
$v_{FO} = v_F - v_R$	3978	7200	No
v_R	1097	1900	No
v_3 or v_{av34}	1660 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3415$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3415	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 30.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.657	
Space mean speed in ramp influence area,	S _R = 53.3	mph
Space mean speed in outer lanes,	S ₀ = 79.7	mph
Space mean speed for all vehicles,	S = 59.8	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5169	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	511	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5169	511		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1360	134		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5631	557	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.594 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3569$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5631	7200	No
$v_{FO} = v_F - v_R$	5074	7200	No
v_R	557	2100	No
v_3 or v_{av34}	2062 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3569$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3569	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 32.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.413	
Space mean speed in ramp influence area,	S _R = 61.4	mph
Space mean speed in outer lanes,	S ₀ = 78.1	mph
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2996	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	770	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	677	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2996	770	677	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	788	203	178	v
Trucks and buses	7	7	0	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	1.000	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3264	839	713	pcph

----- Estimation of V12 Merge Areas -----

L = 838.68 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1941 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4103	7200	No
FO			
v or v	1323 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1941	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2780	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 22.9 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.335	
	S	
Space mean speed in ramp influence area,	S = 63.9	mph
	R	
Space mean speed in outer lanes,	S = 72.0	mph
	0	
Space mean speed for all vehicles,	S = 66.3	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3651	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	953	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	1007	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3651	953	1007	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	961	251	265	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3978	1038	1097	pcph

----- Estimation of V12 Merge Areas -----

L = 1034.06 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 2365 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5016	7200	No
FO			
v or v	1613 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2365	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3403	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 27.7 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.389	
	S	
Space mean speed in ramp influence area,	S = 62.1	mph
	R	
Space mean speed in outer lanes,	S = 71.0	mph
	0	
Space mean speed for all vehicles,	S = 64.7	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4876	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	922	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4876	922		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1283	243		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5312	1004	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.581 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3507$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	5312	7200	No
$v_{FO} = v_F - v_R$	4308	7200	No
v_R	1004	2100	No
v_3 or v_{av34}	1805 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3507$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3507	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 32.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.453	
Space mean speed in ramp influence area,	S _R = 60.0	mph
Space mean speed in outer lanes,	S ₀ = 79.1	mph
Space mean speed for all vehicles,	S = 65.4	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4111	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	718	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4111	718		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1082	189		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4479	782	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.612 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3045$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4479	7200	No
$v_{FO} = v_F - v_R$	3697	7200	No
v_R	782	2100	No
v_3 or v_{av34}	1434 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3045$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3045	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 28.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.433	
Space mean speed in ramp influence area,	S _R = 60.7	mph
Space mean speed in outer lanes,	S ₀ = 80.6	mph
Space mean speed for all vehicles,	S = 65.9	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3954	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1615	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3954	1615		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1041	425		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4308	1759	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 2513 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	6067	7200	No
FO			
v or v	1795 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2513	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	4272	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 36.7 pc/mi/ln

R R 12 A E

Level of service for ramp-freeway junction areas of influence E

----- Speed Estimation -----

Intermediate speed variable,	M = 0.584	
	S	
Space mean speed in ramp influence area,	S = 55.7	mph
	R	
Space mean speed in outer lanes,	S = 70.3	mph
	0	
Space mean speed for all vehicles,	S = 59.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3393	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1307	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3393	1307		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	893	344		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3697	1424	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 2157 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5121	7200	No
FO			
v or v	1540 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2157	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3581	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 31.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.444	
	S	
Space mean speed in ramp influence area,	S = 60.3	mph
	R	
Space mean speed in outer lanes,	S = 71.3	mph
	0	
Space mean speed for all vehicles,	S = 63.3	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4981	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1376	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4981	1376		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1311	362		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5427	1499	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.555 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3680$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	5427	7200	No
$v_{FO} = v_F - v_R$	3928	7200	No
v_R	1499	2100	No
v_3 or v_{av34}	1747 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3680$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3680	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 34.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.498	
Space mean speed in ramp influence area,	S _R = 58.6	mph
Space mean speed in outer lanes,	S ₀ = 79.4	mph
Space mean speed for all vehicles,	S = 64.0	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM NO BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5929	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1601	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5929	1601		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1560	421		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6459	1744	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.518 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 4188 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6459	7200	No
$v_{FO} = v_F - v_R$	4715	7200	No
v_R	1744	2100	No
$v_3 \text{ or } v_{av34}$	2271 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 4188$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	4188	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 38.5 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence E

----- Speed Estimation -----

Intermediate speed variable,	D = 0.520	
Space mean speed in ramp influence area,	S _R = 57.8	mph
Space mean speed in outer lanes,	S ₀ = 77.3	mph
Space mean speed for all vehicles,	S = 63.5	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM NO BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3605	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	617	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3605	617		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	949	162		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3928	672	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 2296 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4600	7200	No
FO			
v or v	1632 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2296	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2968	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.7 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.377	
	S	
Space mean speed in ramp influence area,	S = 62.6	mph
	R	
Space mean speed in outer lanes,	S = 70.9	mph
	0	
Space mean speed for all vehicles,	S = 65.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM NO BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4328	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	841	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4328	841		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1139	221		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4715	916	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 2756 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5631	7200	No
FO			
v or v	1959 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2756	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3672	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 32.1 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.454	
	S	
Space mean speed in ramp influence area,	S = 60.0	mph
	R	
Space mean speed in outer lanes,	S = 69.7	mph
	0	
Space mean speed for all vehicles,	S = 63.1	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	2817	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	40.0	mph
Volume on ramp	185	vph
Length of first accel/decel lane	490	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2817	185		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	741	49		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3069	202	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.674 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2134$ pc/h
FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3069	7200	No
$v_{FO} = v_F - v_R$	2867	7200	No
v_R	202	2100	No
v_3 or v_{av34}	935 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2134$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2134	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 18.2$ pc/mi/ln
Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.381	
Space mean speed in ramp influence area,	S _R = 62.4	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2817	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	185	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2817	185		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	741	49		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3069	202	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.674 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2134$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	3069	7200	No
$v_{FO} = v_F - v_R$	2867	7200	No
v_R	202	2100	No
v_3 or v_{av34}	935 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2134$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2134	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 18.2$ pc/mi/ln
 R 12 D
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.381	
Space mean speed in ramp influence area,	S = 62.4	mph
Space mean speed in outer lanes,	S = 82.3	mph
Space mean speed for all vehicles,	S = 67.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2285	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	156	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2285	156		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	601	41		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2489	170	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.690 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1770$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2489	7200	No
$v_{FO} = v_F - v_R$	2319	7200	No
v_R	170	2100	No
v_3 or v_{av34}	719 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1770$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1770	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 15.1$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.378	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2285	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	156	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2285	156		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	601	41		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2489	170	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.690 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1770$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2489	7200	No
$v_{FO} = v_F - v_R$	2319	7200	No
v_R	170	2100	No
v_3 or v_{av34}	719 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1770$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1770	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 15.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.378	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.2	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2632	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	243	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2632	243		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	693	64		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2867	265	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1754 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3132	7200	No
FO			
v or v	1113 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1754	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2019	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.4 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.252	
	S	
Space mean speed in ramp influence area,	S = 66.7	mph
	R	
Space mean speed in outer lanes,	S = 72.8	mph
	0	
Space mean speed for all vehicles,	S = 68.7	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2632	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	243	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2632	243		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	693	64		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2867	265	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1754 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3132	7200	No
FO			
v or v	1113 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1754	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2019	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.4 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.252	
	S	
Space mean speed in ramp influence area,	S = 66.7	mph
	R	
Space mean speed in outer lanes,	S = 72.8	mph
	0	
Space mean speed for all vehicles,	S = 68.7	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2129	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	203	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2129	203		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	560	53		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2319	221	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1419 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2540	7200	No
FO			
v or v	900 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1419	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1640	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 10.5 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.243	
	S	
Space mean speed in ramp influence area,	S = 67.0	mph
	R	
Space mean speed in outer lanes,	S = 73.6	mph
	0	
Space mean speed for all vehicles,	S = 69.2	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2129	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	203	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2129	203		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	560	53		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2319	221	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1419 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2540	7200	No
FO			
v or v	900 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1419	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1640	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 10.5 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.243	
	S	
Space mean speed in ramp influence area,	S = 67.0	mph
	R	
Space mean speed in outer lanes,	S = 73.6	mph
	0	
Space mean speed for all vehicles,	S = 69.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2363	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	207	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2363	207		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	622	54		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2574	226	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.685 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1835$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2574	7200	No
$v_{FO} = v_F - v_R$	2348	7200	No
v_R	226	2100	No
v_3 or v_{av34}	739 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1835$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1835	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 15.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.383	
Space mean speed in ramp influence area,	S = 62.3	mph
Space mean speed in outer lanes,	S = 82.3	mph
Space mean speed for all vehicles,	S = 67.0	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2363	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	66	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2363	66		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	622	17		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2574	72	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.692 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1804 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2574	7200	No
$v_{FO} = v_F - v_R$	2502	7200	No
v_R	72	2100	No
$v_3 \text{ or } v_{av34}$	770 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1804$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1804	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 15.4 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.369	
Space mean speed in ramp influence area,	S _R = 62.8	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp-LOOP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2297	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	141	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	157	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2297	141	157	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	604	37	41	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2503	154	171	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.690 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1776$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2503	7200	No
$v_{FO} = v_F - v_R$	2349	7200	No
v_R	154	1900	No
v_3 or v_{av34}	727 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1776$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1776	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 15.1$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.572	
Space mean speed in ramp influence area,	S _R = 56.1	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 61.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2983	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	242	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2983	242		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	785	64		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3250	264	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.667 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2254$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3250	7200	No
$v_{FO} = v_F - v_R$	2986	7200	No
v_R	264	2100	No
v_3 or v_{av34}	996 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2254$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2254	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 19.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.387	
Space mean speed in ramp influence area,	S _R = 62.2	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2983	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	73	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2983	73		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	785	19		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3250	80	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.675 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2220$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3250	7200	No
$v_{FO} = v_F - v_R$	3170	7200	No
v_R	80	2100	No
v_3 or v_{av34}	1030 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2220$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2220	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 18.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.370	
Space mean speed in ramp influence area,	S _R = 62.8	mph
Space mean speed in outer lanes,	S ₀ = 82.2	mph
Space mean speed for all vehicles,	S = 67.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp-LOOP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2910	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	169	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	178	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2910	169	178	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	766	44	47	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3170	184	194	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.672 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2191$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	3170	7200	No
$v_{FO} = v_F - v_R$	2986	7200	No
v_R	184	1900	No
v_3 or v_{av34}	979 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2191$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2191	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 18.7$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.575	
Space mean speed in ramp influence area,	S _R = 56.0	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 62.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2156	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	157	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2156	157		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	567	41		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2349	171	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1437 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2520	7200	No
FO			
v or v	912 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1437	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1608	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 10.2 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.242	
	S	
Space mean speed in ramp influence area,	S = 67.0	mph
	R	
Space mean speed in outer lanes,	S = 73.5	mph
	0	
Space mean speed for all vehicles,	S = 69.2	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2156	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	157	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	141	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2156	157	141	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	567	41	37	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2349	171	154	pcph

----- Estimation of V12 Merge Areas -----

L = 775.20 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1437 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2520	7200	No
FO			
v or v	912 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1437	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1608	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 10.2 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.242	
	S	
Space mean speed in ramp influence area,	S = 67.0	mph
	R	
Space mean speed in outer lanes,	S = 73.5	mph
	0	
Space mean speed for all vehicles,	S = 69.2	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2741	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	178	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2741	178		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	721	47		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2986	194	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1827 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3180	7200	No
FO			
v or v	1159 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1827	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2021	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.4 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.252	
	S	
Space mean speed in ramp influence area,	S = 66.7	mph
	R	
Space mean speed in outer lanes,	S = 72.6	mph
	0	
Space mean speed for all vehicles,	S = 68.7	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2741	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	178	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	169	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2741	178	169	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	721	47	44	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2986	194	184	pcph

----- Estimation of V12 Merge Areas -----

L = 916.44 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1827 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3180	7200	No
FO			
v or v	1159 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1827	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2021	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.4 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.252	
	S	
Space mean speed in ramp influence area,	S = 66.7	mph
	R	
Space mean speed in outer lanes,	S = 72.6	mph
	0	
Space mean speed for all vehicles,	S = 68.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2574	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	437	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2574	437		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	677	115		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2804	476	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.668 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2031$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2804	7200	No
$v_{FO} = v_F - v_R$	2328	7200	No
v_R	476	2100	No
v_3 or v_{av34}	773 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2031$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2031	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 19.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.406	
Space mean speed in ramp influence area,	S _R = 61.6	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 66.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM Build
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2106	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	379	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2106	379		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	554	100		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2294	413	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.684 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1699$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2294	7200	No
$v_{FO} = v_F - v_R$	1881	7200	No
v_R	413	2100	No
v_3 or v_{av34}	595 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1699$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1699	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 16.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.400	
Space mean speed in ramp influence area,	S _R = 61.8	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 66.1	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2137	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	680	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2137	680		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	562	179		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2328	741	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1360 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3069	7200	No
FO			
v or v	968 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1360	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2101	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.0+ pc/mi/ln
R R 12 A C
Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.334	
	S	
Space mean speed in ramp influence area,	S = 64.0	mph
	R	
Space mean speed in outer lanes,	S = 73.3	mph
	0	
Space mean speed for all vehicles,	S = 66.7	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1727	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	558	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1727	558		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	454	147		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	1882	608	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1100 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2490	7200	No
FO			
v or v	782 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1100	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1708	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 17.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.323	
	S	
Space mean speed in ramp influence area,	S = 64.3	mph
	R	
Space mean speed in outer lanes,	S = 74.0	mph
	0	
Space mean speed for all vehicles,	S = 67.1	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2167	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	434	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	373	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2167	434	373	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	570	114	98	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2361	473	406	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.679 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1755$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2361	7200	No
$v_{FO} = v_F - v_R$	1888	7200	No
v_R	473	1900	No
v_3 or v_{av34}	606 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1755$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1755	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 16.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.601	
Space mean speed in ramp influence area,	S _R = 55.2	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 60.3	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2313	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	146	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2313	146		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	609	38		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2520	159	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.690 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1787$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	2520	7200	No
$v_{FO} = v_F - v_R$	2361	7200	No
v_R	159	2100	No
v_3 or v_{av34}	733 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1787$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1787	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 17.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.377	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2758	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	610	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	426	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2758	610	426	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	726	161	112	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3005	665	464	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.654 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2196$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3005	7200	No
$v_{FO} = v_F - v_R$	2340	7200	No
v_R	665	1900	No
v_3 or v_{av34}	809 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2196$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2196	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.618	
Space mean speed in ramp influence area,	S _R = 54.6	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 60.0	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2919	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	161	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2919	161		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	768	42		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3180	175	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.672 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2196$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3180	7200	No
$v_{FO} = v_F - v_R$	3005	7200	No
v_R	175	2100	No
v_3 or v_{av34}	984 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2196$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2196	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.379	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 67.5	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	1733	vph

-----On Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	373	vph
Length of first accel/decel lane	610	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	434	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1300	ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1733	373	434	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	456	98	114	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	1888	406	473	pcph

----- Estimation of V12 Merge Areas -----

L = 451.56 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1123 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2294	7200	No
FO			
v or v	765 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1123	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1529	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 13.4 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.290	
	S	
Space mean speed in ramp influence area,	S = 65.4	mph
	R	
Space mean speed in outer lanes,	S = 74.0	mph
	0	
Space mean speed for all vehicles,	S = 68.1	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2148	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	426	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	610	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2148	426	610	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	565	112	161	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2340	464	665	pcph

----- Estimation of V12 Merge Areas -----

L = 560.70 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1391 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2804	7200	No
FO			
v or v	949 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1391	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1855	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 15.9 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.297	
	S	
Space mean speed in ramp influence area,	S = 65.2	mph
	R	
Space mean speed in outer lanes,	S = 73.4	mph
	0	
Space mean speed for all vehicles,	S = 67.8	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2875	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	446	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2875	446		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	757	117		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3132	486	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.659 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2231$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3132	7200	No
$v_{FO} = v_F - v_R$	2646	7200	No
v_R	486	2100	No
v_3 or v_{av34}	901 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2231$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2231	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.407	
Space mean speed in ramp influence area,	S _R = 61.6	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 66.4	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2332	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	352	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2332	352		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	614	93		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2541	383	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.679 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 1848$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2541	7200	No
$v_{FO} = v_F - v_R$	2158	7200	No
v_R	383	2100	No
v_3 or v_{av34}	693 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 1848$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	1848	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 17.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	D = 0.397	
Space mean speed in ramp influence area,	S _R = 61.9	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 66.4	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2429	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1130	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2429	1130		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	639	297		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2646	1231	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1544 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3877	7200	No
FO			
v or v	1102 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1544	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2775	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.2 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.367	
	S	
Space mean speed in ramp influence area,	S = 62.9	mph
	R	
Space mean speed in outer lanes,	S = 72.8	mph
	0	
Space mean speed for all vehicles,	S = 65.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1980	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	802	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1980	802		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	521	211		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2157	874	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1258 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3031	7200	No
FO			
v or v	899 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1258	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2132	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.4 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.337	
	S	
Space mean speed in ramp influence area,	S = 63.9	mph
	R	
Space mean speed in outer lanes,	S = 73.6	mph
	0	
Space mean speed for all vehicles,	S = 66.5	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2809	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	810	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2809	810		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	739	213		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3060	882	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.643 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2282 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3060	7200	No
$v_{FO} = v_F - v_R$	2178	7200	No
v_R	882	2100	No
$v_3 \text{ or } v_{av34}$	778 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2282$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2282	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 22.1 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.442	
Space mean speed in ramp influence area,	S _R = 60.4	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 64.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2022
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3504	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	955	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3504	955		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	922	251		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3818	1040	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.617 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2753$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3818	7200	No
$v_{FO} = v_F - v_R$	2778	7200	No
v_R	1040	2100	No
v_3 or v_{av34}	1065 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2753$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2753	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.457	
Space mean speed in ramp influence area,	S _R = 59.9	mph
Space mean speed in outer lanes,	S ₀ = 82.0	mph
Space mean speed for all vehicles,	S = 64.8	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	1999	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	364	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	1999	364		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	526	96		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	%
Length	mi	mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2178	397	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 1273 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	2575	7200	No
FO			
v or v	905 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1273	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	1670	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.8 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.322	
	S	
Space mean speed in ramp influence area,	S = 64.4	mph
	R	
Space mean speed in outer lanes,	S = 73.5	mph
	0	
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2022
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2549	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	434	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2549	434		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	671	114		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2777	473	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 1623 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3250	7200	No
FO			
v or v	1154 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1623	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2096	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.0+ pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.333	
	S	
Space mean speed in ramp influence area,	S = 64.0	mph
	R	
Space mean speed in outer lanes,	S = 72.6	mph
	0	
Space mean speed for all vehicles,	S = 66.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3851	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	399	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3851	399		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1013	105		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4196	435	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.635 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2824 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4196	7200	No
$v_{FO} = v_F - v_R$	3761	7200	No
v_R	435	2100	No
$v_3 \text{ or } v_{av34}$	1372 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2824$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2824	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 24.1 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.402	
Space mean speed in ramp influence area,	S _R = 61.7	mph
Space mean speed in outer lanes,	S ₀ = 80.8	mph
Space mean speed for all vehicles,	S = 66.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3851	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	399	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3851	399		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1013	105		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4196	435	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.635 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2824 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4196	7200	No
$v_{FO} = v_F - v_R$	3761	7200	No
v_R	435	2100	No
$v_3 \text{ or } v_{av34}$	1372 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2824$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2824	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 24.1 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.402	
Space mean speed in ramp influence area,	S _R = 61.7	mph
Space mean speed in outer lanes,	S ₀ = 80.8	mph
Space mean speed for all vehicles,	S = 66.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3212	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	336	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3212	336		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	845	88		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3499	366	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.656 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2420$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3499	7200	No
$v_{FO} = v_F - v_R$	3133	7200	No
v_R	366	2100	No
v_3 or v_{av34}	1079 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2420$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2420	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.396	
Space mean speed in ramp influence area,	S _R = 61.9	mph
Space mean speed in outer lanes,	S ₀ = 82.0	mph
Space mean speed for all vehicles,	S = 67.0	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	3212	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	40.0	mph
Volume on ramp	336	vph
Length of first accel/decel lane	490	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3212	336		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	845	88		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3499	366	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.656 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2420$ pc/h

12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3499	7200	No
$v_{FO} = v_F - v_R$	3133	7200	No
v_R	366	2100	No
v_3 or v_{av34}	1079 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2420$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2420	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.396	
Space mean speed in ramp influence area,	S _R = 61.9	mph
Space mean speed in outer lanes,	S ₀ = 82.0	mph
Space mean speed for all vehicles,	S = 67.0	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3452	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	525	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3452	525		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	908	138		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3761	572	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2302 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4333	7200	No
FO			
v or v	1459 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2302	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2874	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 19.9 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.292	
	S	
Space mean speed in ramp influence area,	S = 65.4	mph
	R	
Space mean speed in outer lanes,	S = 71.5	mph
	0	
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3452	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	525	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3452	525		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	908	138		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3761	572	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2302 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4333	7200	No
FO			
v or v	1459 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2302	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2874	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 19.9 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.292	
	S	
Space mean speed in ramp influence area,	S = 65.4	mph
	R	
Space mean speed in outer lanes,	S = 71.5	mph
	0	
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2876	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	429	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2876	429		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	757	113		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3133	467	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1917 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3600	7200	No
FO			
v or v	1216 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1917	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2384	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.1 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.265	
	S	
Space mean speed in ramp influence area,	S = 66.3	mph
	R	
Space mean speed in outer lanes,	S = 72.4	mph
	0	
Space mean speed for all vehicles,	S = 68.2	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2876	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	429	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2876	429		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	757	113		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3133	467	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1917 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3600	7200	No
FO			
v or v	1216 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1917	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2384	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 16.1 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.265	
	S	
Space mean speed in ramp influence area,	S = 66.3	mph
	R	
Space mean speed in outer lanes,	S = 72.4	mph
	0	
Space mean speed for all vehicles,	S = 68.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3272	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	451	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3272	451		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	861	119		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3565	491	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.648 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2484$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3565	7200	No
$v_{FO} = v_F - v_R$	3074	7200	No
v_R	491	2100	No
v_3 or v_{av34}	1081 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2484$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2484	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.407	
Space mean speed in ramp influence area,	S _R = 61.6	mph
Space mean speed in outer lanes,	S ₀ = 82.0	mph
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3272	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	143	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3272	143		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	861	38		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3565	156	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.664 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2419$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3565	7200	No
$v_{FO} = v_F - v_R$	3409	7200	No
v_R	156	2100	No
v_3 or v_{av34}	1146 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2419$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2419	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.377	
Space mean speed in ramp influence area,	S _R = 62.6	mph
Space mean speed in outer lanes,	S ₀ = 81.7	mph
Space mean speed for all vehicles,	S = 67.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail-LOOP
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3129	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	308	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	339	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3129	308	339	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	823	81	89	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3409	336	369	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.659 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2362$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	3409	7200	No
$v_{FO} = v_F - v_R$	3073	7200	No
v_R	336	1900	No
v_3 or v_{av34}	1047 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2362$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2362	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.2$ pc/mi/ln
 R 12 D
 Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.588	
Space mean speed in ramp influence area,	S = 55.6	mph
Space mean speed in outer lanes,	S = 82.1	mph
Space mean speed for all vehicles,	S = 61.7	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4078	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	520	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4078	520		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1073	137		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4443	567	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.623 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2981$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4443	7200	No
$v_{FO} = v_F - v_R$	3876	7200	No
v_R	567	2100	No
v_3 or v_{av34}	1462 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2981$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2981	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.414	
Space mean speed in ramp influence area,	S _R = 61.3	mph
Space mean speed in outer lanes,	S ₀ = 80.5	mph
Space mean speed for all vehicles,	S = 66.5	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4078	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	154	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4078	154		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1073	41		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4443	168	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.641 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2909$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4443	7200	No
$v_{FO} = v_F - v_R$	4275	7200	No
v_R	168	2100	No
v_3 or v_{av34}	1534 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2909$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2909	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 24.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.378	
Space mean speed in ramp influence area,	S _R = 62.5	mph
Space mean speed in outer lanes,	S ₀ = 80.2	mph
Space mean speed for all vehicles,	S = 67.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp-LOOP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3924	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	366	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	383	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3924	366	383	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1033	96	101	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4275	399	417	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.635 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2859$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4275	7200	No
$v_{FO} = v_F - v_R$	3876	7200	No
v_R	399	1900	No
v_3 or v_{av34}	1416 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2859$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2859	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 24.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.594	
Space mean speed in ramp influence area,	S _R = 55.4	mph
Space mean speed in outer lanes,	S ₀ = 80.7	mph
Space mean speed for all vehicles,	S = 61.8	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2821	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	339	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2821	339		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	742	89		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3073	369	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1880 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3442	7200	No
FO			
v or v	1193 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1880	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2249	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 15.1 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.260	
	S	
Space mean speed in ramp influence area,	S = 66.4	mph
	R	
Space mean speed in outer lanes,	S = 72.5	mph
	0	
Space mean speed for all vehicles,	S = 68.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2821	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	339	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	308	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2821	339	308	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	742	89	81	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3073	369	336	pcph

----- Estimation of V12 Merge Areas -----

L = 972.51 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 1880 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3442	7200	No
FO			
v or v	1193 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1880	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2249	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 15.1 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.260	
	S	
Space mean speed in ramp influence area,	S = 66.4	mph
	R	
Space mean speed in outer lanes,	S = 72.5	mph
	0	
Space mean speed for all vehicles,	S = 68.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3558	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	383	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3558	383		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	936	101		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3876	417	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2372 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4293	7200	No
FO			
v or v	1504 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2372	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2789	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 19.3 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.286	
	S	
Space mean speed in ramp influence area,	S = 65.6	mph
	R	
Space mean speed in outer lanes,	S = 71.4	mph
	0	
Space mean speed for all vehicles,	S = 67.5	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3558	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	383	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	366	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3558	383	366	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	936	101	96	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3876	417	399	pcph

----- Estimation of V12 Merge Areas -----

L = 1154.62 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2372 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4293	7200	No
FO			
v or v	1504 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2372	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2789	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 19.3 pc/mi/ln

R R 12 A

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.286	
	S	
Space mean speed in ramp influence area,	S = 65.6	mph
	R	
Space mean speed in outer lanes,	S = 71.4	mph
	0	
Space mean speed for all vehicles,	S = 67.5	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3564	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	564	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3564	564		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	938	148		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3883	614	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.635 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2689$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3883	7200	No
$v_{FO} = v_F - v_R$	3269	7200	No
v_R	614	2100	No
v_3 or v_{av34}	1194 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2689$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2689	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.4$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.418	
Space mean speed in ramp influence area,	S _R = 61.2	mph
Space mean speed in outer lanes,	S ₀ = 81.5	mph
Space mean speed for all vehicles,	S = 66.3	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM Build
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2916	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	477	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2916	477		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	767	126		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3177	520	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.657 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2265$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3177	7200	No
$v_{FO} = v_F - v_R$	2657	7200	No
v_R	520	2100	No
v_3 or v_{av34}	912 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2265$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2265	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 21.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.410	
Space mean speed in ramp influence area,	S _R = 61.5	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 66.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3000	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	851	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3000	851		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	789	224		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3268	927	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1909 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4195	7200	No
FO			
v or v	1359 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1909	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2836	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.7 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.368	
	S	
Space mean speed in ramp influence area,	S = 62.8	mph
	R	
Space mean speed in outer lanes,	S = 71.9	mph
	0	
Space mean speed for all vehicles,	S = 65.5	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2439	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	773	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2439	773		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	642	203		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	2657	842	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 1552 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3499	7200	No
FO			
v or v	1105 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1552	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2394	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 22.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.345	
	S	
Space mean speed in ramp influence area,	S = 63.6	mph
	R	
Space mean speed in outer lanes,	S = 72.8	mph
	0	
Space mean speed for all vehicles,	S = 66.3	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2890	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	454	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	480	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2890	454	480	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	761	119	126	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3149	495	523	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.659 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2243$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3149	7200	No
$v_{FO} = v_F - v_R$	2654	7200	No
v_R	495	1900	No
v_3 or v_{av34}	906 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2243$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2243	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 20.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.603	
Space mean speed in ramp influence area,	S _R = 55.1	mph
Space mean speed in outer lanes,	S ₀ = 82.3	mph
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3160	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	270	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3160	270		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	832	71		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3443	294	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.660 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2374$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3443	7200	No
$v_{FO} = v_F - v_R$	3149	7200	No
v_R	294	2100	No
v_3 or v_{av34}	1069 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2374$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2374	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 22.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.389	
Space mean speed in ramp influence area,	S _R = 62.1	mph
Space mean speed in outer lanes,	S ₀ = 82.0	mph
Space mean speed for all vehicles,	S = 67.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3679	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	673	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	558	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3679	673	558	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	968	177	147	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4008	733	608	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.626 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2783$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4008	7200	No
$v_{FO} = v_F - v_R$	3275	7200	No
v_R	733	1900	No
v_3 or v_{av34}	1225 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2783$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2783	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.4$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.624	
Space mean speed in ramp influence area,	S _R = 54.4	mph
Space mean speed in outer lanes,	S ₀ = 81.4	mph
Space mean speed for all vehicles,	S = 60.5	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3941	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	262	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3941	262		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1037	69		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4294	285	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.640 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2849$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4294	7200	No
$v_{FO} = v_F - v_R$	4009	7200	No
v_R	285	2100	No
v_3 or v_{av34}	1445 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2849$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2849	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.389	
Space mean speed in ramp influence area,	S _R = 62.2	mph
Space mean speed in outer lanes,	S ₀ = 80.5	mph
Space mean speed for all vehicles,	S = 67.3	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2436	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	480	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	454	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2436	480	454	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	641	126	119	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	2654	523	495	pcph

----- Estimation of V12 Merge Areas -----

L = 640.52 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1578 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3177	7200	No
FO			
v or v	1076 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1578	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2101	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 17.8 pc/mi/ln

R R 12 A B

Level of service for ramp-freeway junction areas of influence B

----- Speed Estimation -----

Intermediate speed variable,	M = 0.304	
	S	
Space mean speed in ramp influence area,	S = 65.0	mph
	R	
Space mean speed in outer lanes,	S = 72.9	mph
	0	
Space mean speed for all vehicles,	S = 67.5	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3006	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	558	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	673	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3006	558	673	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	791	147	177	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3275	608	733	pcph

----- Estimation of V12 Merge Areas -----

L = 791.60 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 1947 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3883	7200	No
FO			
v or v	1328 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1947	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2555	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.322	
	S	
Space mean speed in ramp influence area,	S = 64.4	mph
	R	
Space mean speed in outer lanes,	S = 72.0	mph
	0	
Space mean speed for all vehicles,	S = 66.8	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3977	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	545	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3977	545		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1047	143		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4333	594	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.624 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2928 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4333	7200	No
$v_{FO} = v_F - v_R$	3739	7200	No
v_R	594	2100	No
$v_3 \text{ or } v_{av34}$	1405 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2928$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2928	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 27.1 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.416	
Space mean speed in ramp influence area,	S _R = 61.3	mph
Space mean speed in outer lanes,	S ₀ = 80.7	mph
Space mean speed for all vehicles,	S = 66.4	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3305	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	433	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3305	433		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	870	114		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3601	472	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.648 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2500$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3601	7200	No
$v_{FO} = v_F - v_R$	3129	7200	No
v_R	472	2100	No
v_3 or v_{av34}	1101 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2500$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2500	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 23.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.405	
Space mean speed in ramp influence area,	S _R = 61.6	mph
Space mean speed in outer lanes,	S ₀ = 81.9	mph
Space mean speed for all vehicles,	S = 66.7	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2032
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3432	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1166	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3432	1166		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	903	307		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3739	1270	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 2181 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5009	7200	No
FO			
v or v	1558 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2181	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3451	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 30.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.427	
	S	
Space mean speed in ramp influence area,	S = 60.9	mph
	R	
Space mean speed in outer lanes,	S = 71.2	mph
	0	
Space mean speed for all vehicles,	S = 63.8	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2872	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	881	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2872	881		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	756	232		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3129	960	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 1825 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4089	7200	No
FO			
v or v	1304 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1825	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2785	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.4 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.367	
	S	
Space mean speed in ramp influence area,	S = 62.9	mph
	R	
Space mean speed in outer lanes,	S = 72.1	mph
	0	
Space mean speed for all vehicles,	S = 65.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3718	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	891	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3718	891		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	978	234		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4051	971	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.614 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2862$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4051	7200	No
$v_{FO} = v_F - v_R$	3080	7200	No
v_R	971	2100	No
v_3 or v_{av34}	1189 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2862$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2862	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 27.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.450	
Space mean speed in ramp influence area,	S _R = 60.1	mph
Space mean speed in outer lanes,	S ₀ = 81.5	mph
Space mean speed for all vehicles,	S = 65.2	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4607	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1058	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4607	1058		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1212	278		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicle PCE, ER	1.2		1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5019	1153	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.581 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3401$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	5019	7200	No
$v_{FO} = v_F - v_R$	3866	7200	No
v_R	1153	2100	No
v_3 or v_{av34}	1618 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3401$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3401	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 31.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.467	
Space mean speed in ramp influence area,	S _R = 59.6	mph
Space mean speed in outer lanes,	S ₀ = 79.9	mph
Space mean speed for all vehicles,	S = 64.9	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	2827	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	445	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2827	445		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	744	117		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3080	485	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 1800 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	3565	7200	No
FO			
v or v	1280 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 1800	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2285	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.5 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.339	
	S	
Space mean speed in ramp influence area,	S = 63.8	mph
	R	
Space mean speed in outer lanes,	S = 72.2	mph
	0	
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2032
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3449	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	529	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3449	529		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	908	139		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3758	576	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 2197 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4334	7200	No
FO			
v or v	1561 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2197	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2773	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 25.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.363	
	S	
Space mean speed in ramp influence area,	S = 63.0	mph
	R	
Space mean speed in outer lanes,	S = 71.2	mph
	0	
Space mean speed for all vehicles,	S = 65.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4915	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	603	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4915	603		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1293	159		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5355	657	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.596 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3457$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5355	7200	No
$v_{FO} = v_F - v_R$	4698	7200	No
v_R	657	2100	No
v_3 or v_{av34}	1898 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3457$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3457	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 29.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.422	
Space mean speed in ramp influence area,	S _R = 61.1	mph
Space mean speed in outer lanes,	S ₀ = 78.8	mph
Space mean speed for all vehicles,	S = 66.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4915	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	603	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4915	603		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1293	159		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5355	657	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.596 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3457$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5355	7200	No
$v_{FO} = v_F - v_R$	4698	7200	No
v_R	657	2100	No
v_3 or v_{av34}	1898 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3457$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3457	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 29.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.422	
Space mean speed in ramp influence area,	S _R = 61.1	mph
Space mean speed in outer lanes,	S ₀ = 78.8	mph
Space mean speed for all vehicles,	S = 66.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4936	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	609	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4936	609		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1299	160		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5378	663	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.595 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3469$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5378	7200	No
$v_{FO} = v_F - v_R$	4715	7200	No
v_R	663	2000	No
v_3 or v_{av34}	1909 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3469$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3469	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 29.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.488	
Space mean speed in ramp influence area,	S _R = 56.3	mph
Space mean speed in outer lanes,	S ₀ = 73.2	mph
Space mean speed for all vehicles,	S = 61.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4936	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	609	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	758	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4936	609	758	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1299	160	199	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	5378	663	826	pcph

----- Estimation of V12 Diverge Areas -----

L = 0.00 (Equation 13-12 or 13-13)

EQ

P = 0.595 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3469$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5378	7200	No
$v_{FO} = v_F - v_R$	4715	7200	No
v_R	663	2000	No
v_3 or v_{av34}	1909 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3469$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3469	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 29.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.488	
Space mean speed in ramp influence area,	S _R = 56.3	mph
Space mean speed in outer lanes,	S ₀ = 73.2	mph
Space mean speed for all vehicles,	S = 61.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4137	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	509	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4137	509		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1089	134		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4507	555	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.622 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3012 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4507	7200	No
$v_{FO} = v_F - v_R$	3952	7200	No
v_R	555	2100	No
$v_3 \text{ or } v_{av34}$	1495 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3012$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3012	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.7 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.413	
Space mean speed in ramp influence area,	S _R = 61.4	mph
Space mean speed in outer lanes,	S ₀ = 80.3	mph
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4137	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	509	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4137	509		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1089	134		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4507	555	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.622 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3012 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4507	7200	No
$v_{FO} = v_F - v_R$	3952	7200	No
v_R	555	2100	No
$v_3 \text{ or } v_{av34}$	1495 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3012$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3012	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.7 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.413	
Space mean speed in ramp influence area,	S _R = 61.4	mph
Space mean speed in outer lanes,	S ₀ = 80.3	mph
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4029	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	509	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4029	509		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1060	134		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4389	555	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.625 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2950$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4389	7200	No
$v_{FO} = v_F - v_R$	3834	7200	No
v_R	555	2000	No
v_3 or v_{av34}	1439 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2950$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2950	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.478	
Space mean speed in ramp influence area,	S _R = 56.6	mph
Space mean speed in outer lanes,	S ₀ = 75.1	mph
Space mean speed for all vehicles,	S = 61.6	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4029	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	509	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	651	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4029	509	651	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1060	134	171	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4389	555	709	pcph

----- Estimation of V12 Diverge Areas -----

L = 0.00 (Equation 13-12 or 13-13)

EQ

P = 0.625 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2950$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4389	7200	No
$v_{FO} = v_F - v_R$	3834	7200	No
v_R	555	2000	No
v_3 or v_{av34}	1439 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2950$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2950	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.478	
Space mean speed in ramp influence area,	S _R = 56.6	mph
Space mean speed in outer lanes,	S ₀ = 75.1	mph
Space mean speed for all vehicles,	S = 61.6	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4312	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	797	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4312	797		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1135	210		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4698	868	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2875 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5566	7200	No
FO			
v or v	1823 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2875	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3743	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 26.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.387	
	S	
Space mean speed in ramp influence area,	S = 62.2	mph
	R	
Space mean speed in outer lanes,	S = 70.2	mph
	0	
Space mean speed for all vehicles,	S = 64.6	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4312	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	797	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4312	797		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1135	210		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4698	868	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2875 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5566	7200	No
FO			
v or v	1823 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2875	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3743	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.6 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.387	
	S	
Space mean speed in ramp influence area,	S = 62.2	mph
	R	
Space mean speed in outer lanes,	S = 70.2	mph
	0	
Space mean speed for all vehicles,	S = 64.6	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4327	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	758	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4327	758		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1139	199		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4714	826	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2885 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5540	7200	No
FO			
v or v	1829 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2885	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3711	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 26.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.394	
	S	
Space mean speed in ramp influence area,	S = 59.0	mph
	R	
Space mean speed in outer lanes,	S = 65.2	mph
	0	
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4327	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	758	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	609	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4327	758	609	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1139	199	160	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4714	826	663	pcph

----- Estimation of V12 Merge Areas -----

L = 636.68 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2885 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5540	7200	No
FO			
v or v	1829 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2885	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3711	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.419	
	S	
Space mean speed in ramp influence area,	S = 58.3	mph
	R	
Space mean speed in outer lanes,	S = 65.2	mph
	0	
Space mean speed for all vehicles,	S = 60.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3628	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	651	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3628	651		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	955	171		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3953	709	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2419 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4662	7200	No
FO			
v or v	1534 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2419	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3128	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.8 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.312	
	S	
Space mean speed in ramp influence area,	S = 64.7	mph
	R	
Space mean speed in outer lanes,	S = 71.3	mph
	0	
Space mean speed for all vehicles,	S = 66.7	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3628	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	651	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3628	651		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	955	171		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3953	709	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2419 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4662	7200	No
FO			
v or v	1534 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2419	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3128	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.8 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.312	
	S	
Space mean speed in ramp influence area,	S = 64.7	mph
	R	
Space mean speed in outer lanes,	S = 71.3	mph
	0	
Space mean speed for all vehicles,	S = 66.7	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	3520	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	651	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3520	651		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	926	171		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3835	709	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2347 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4544	7200	No
FO			
v or v	1488 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2347	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3056	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.318	
	S	
Space mean speed in ramp influence area,	S = 61.1	mph
	R	
Space mean speed in outer lanes,	S = 66.4	mph
	0	
Space mean speed for all vehicles,	S = 62.8	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 NB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	3520	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	651	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	509	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3520	651	509	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	926	171	134	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3835	709	555	pcph

----- Estimation of V12 Merge Areas -----

L = 423.54 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2347 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4544	7200	No
FO			
v or v	1488 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2347	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3056	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 21.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.342	
	S	
Space mean speed in ramp influence area,	S = 60.4	mph
	R	
Space mean speed in outer lanes,	S = 66.4	mph
	0	
Space mean speed for all vehicles,	S = 62.3	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4233	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	679	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4233	679		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1114	179		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4612	740	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.611 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3104 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4612	7200	No
$v_{FO} = v_F - v_R$	3872	7200	No
v_R	740	2100	No
$v_3 \text{ or } v_{av34}$	1508 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3104$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3104	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.5 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.430	
Space mean speed in ramp influence area,	S _R = 60.8	mph
Space mean speed in outer lanes,	S ₀ = 80.3	mph
Space mean speed for all vehicles,	S = 66.1	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4233	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	230	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4233	230		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1114	61		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4612	251	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.633 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3012 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4612	7200	No
$v_{FO} = v_F - v_R$	4361	7200	No
v_R	251	2100	No
$v_3 \text{ or } v_{av34}$	1600 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3012$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3012	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.7 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.386	
Space mean speed in ramp influence area,	S _R = 62.3	mph
Space mean speed in outer lanes,	S ₀ = 79.9	mph
Space mean speed for all vehicles,	S = 67.4	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4003	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	449	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	513	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4003	449	513	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1053	118	135	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4361	489	559	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.628 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2922$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4361	7200	No
$v_{FO} = v_F - v_R$	3872	7200	No
v_R	489	1900	No
v_3 or v_{av34}	1439 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2922$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2922	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 25.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.602	
Space mean speed in ramp influence area,	S _R = 55.1	mph
Space mean speed in outer lanes,	S ₀ = 80.6	mph
Space mean speed for all vehicles,	S = 61.5	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4266	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	686	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4266	686		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1123	181		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4648	747	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.609 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3124$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4648	7200	No
$v_{FO} = v_F - v_R$	3901	7200	No
v_R	747	2000	No
v_3 or v_{av34}	1524 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3124$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3124	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.495	
Space mean speed in ramp influence area,	S _R = 56.1	mph
Space mean speed in outer lanes,	S ₀ = 74.7	mph
Space mean speed for all vehicles,	S = 61.1	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4266	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	686	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	489	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4266	686	489	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1123	181	129	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4648	747	533	pcph

----- Estimation of V12 Diverge Areas -----

L = 0.00 (Equation 13-12 or 13-13)

EQ

P = 0.609 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3124$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4648	7200	No
$v_{FO} = v_F - v_R$	3901	7200	No
v_R	747	2000	No
v_3 or v_{av34}	1524 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3124$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3124	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.495	
Space mean speed in ramp influence area,	S _R = 56.1	mph
Space mean speed in outer lanes,	S ₀ = 74.7	mph
Space mean speed for all vehicles,	S = 61.1	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5247	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	792	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5247	792		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1381	208		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5716	863	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.577 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3665$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5716	7200	No
$v_{FO} = v_F - v_R$	4853	7200	No
v_R	863	2100	No
v_3 or v_{av34}	2051 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3665$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3665	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 31.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.441	
Space mean speed in ramp influence area,	S _R = 60.5	mph
Space mean speed in outer lanes,	S ₀ = 78.2	mph
Space mean speed for all vehicles,	S = 65.8	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp-LOOP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5011	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	556	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	570	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5011	556	570	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1319	146	150	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	5459	606	621	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.596 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3497$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	5459	7200	No
$v_{FO} = v_F - v_R$	4853	7200	No
v_R	606	1900	No
v_3 or v_{av34}	1962 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3497$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3497	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 29.9$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.613	
Space mean speed in ramp influence area,	S _R = 54.8	mph
Space mean speed in outer lanes,	S ₀ = 78.5	mph
Space mean speed for all vehicles,	S = 61.5	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	5247	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	40.0	mph
Volume on ramp	236	vph
Length of first accel/decel lane	490	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5247	236		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1381	62		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5716	257	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.605 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3561 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5716	7200	No
$v_{FO} = v_F - v_R$	5459	7200	No
v_R	257	2100	No
$v_3 \text{ or } v_{av34}$	2155 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3561$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3561	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 30.5 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.386	
Space mean speed in ramp influence area,	S _R = 62.3	mph
Space mean speed in outer lanes,	S ₀ = 77.8	mph
Space mean speed for all vehicles,	S = 67.3	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	5199	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	791	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5199	791		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1368	208		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5664	862	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.579 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3641$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5664	7200	No
$v_{FO} = v_F - v_R$	4802	7200	No
v_R	862	2000	No
v_3 or v_{av34}	2023 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3641$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3641	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 31.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.506	
Space mean speed in ramp influence area,	S _R = 55.8	mph
Space mean speed in outer lanes,	S ₀ = 72.8	mph
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	5199	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	791	vph	
Length of first accel/decel lane	490	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	570	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5199	791	570	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1368	208	150	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	5664	862	621	pcph

----- Estimation of V12 Diverge Areas -----

L = 0.00 (Equation 13-12 or 13-13)

EQ

P = 0.579 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3641$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5664	7200	No
$v_{FO} = v_F - v_R$	4802	7200	No
v_R	862	2000	No
v_3 or v_{av34}	2023 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3641$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3641	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 31.2$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.506	
Space mean speed in ramp influence area,	S _R = 55.8	mph
Space mean speed in outer lanes,	S ₀ = 72.8	mph
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3554	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	513	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3554	513		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	935	135		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3872	559	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2369 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4431	7200	No
FO			
v or v	1503 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2369	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2928	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.295	
	S	
Space mean speed in ramp influence area,	S = 65.2	mph
	R	
Space mean speed in outer lanes,	S = 71.4	mph
	0	
Space mean speed for all vehicles,	S = 67.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD-Alternative 2
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3551	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	513	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	449	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3551	513	449	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	934	135	118	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3869	559	489	pcph

----- Estimation of V12 Merge Areas -----

L = 1183.51 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2368 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4428	7200	No
FO			
v or v	1501 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2368	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2927	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.295	
	S	
Space mean speed in ramp influence area,	S = 65.3	mph
	R	
Space mean speed in outer lanes,	S = 71.4	mph
	0	
Space mean speed for all vehicles,	S = 67.2	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	3580	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	489	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3580	489		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	942	129		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3900	533	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2387 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4433	7200	No
FO			
v or v	1513 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2387	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2920	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.307	
	S	
Space mean speed in ramp influence area,	S = 61.4	mph
	R	
Space mean speed in outer lanes,	S = 66.4	mph
	0	
Space mean speed for all vehicles,	S = 63.0	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	3580	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	489	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	686	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	On		
Distance to adjacent Ramp	1000	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3580	489	686	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	942	129	181	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3900	533	747	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2387 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4433	7200	No
FO			
v or v	1513 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2387	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2920	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 20.3 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.332	
	S	
Space mean speed in ramp influence area,	S = 60.7	mph
	R	
Space mean speed in outer lanes,	S = 66.4	mph
	0	
Space mean speed for all vehicles,	S = 62.5	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 1
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4455	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	570	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4455	570		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1172	150		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4854	621	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2970 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5475	7200	No
FO			
v or v	1884 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2970	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3591	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.5 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.364	
	S	
Space mean speed in ramp influence area,	S = 63.0	mph
	R	
Space mean speed in outer lanes,	S = 70.0	mph
	0	
Space mean speed for all vehicles,	S = 65.2	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4455	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	570	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	556	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4455	570	556	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1172	150	146	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4854	621	606	pcph

----- Estimation of V12 Merge Areas -----

L = 1407.57 (Equation 13-6 or 13-7)

EQ

P = 0.605 Using Equation 4

FM

v = v (P) = 2937 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5475	7200	No
FO			
v or v	1917 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2937	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3591	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.2 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.364	
	S	
Space mean speed in ramp influence area,	S = 63.0	mph
	R	
Space mean speed in outer lanes,	S = 69.9	mph
	0	
Space mean speed for all vehicles,	S = 65.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD-Alternative 1
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/Pioneer Trail
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	70.0	mph	
Volume on freeway	4408	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	570	vph	
Length of first accel/decel lane	1230	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4408	570		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1160	150		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4802	621	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2939 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5423	7200	No
FO			
v or v	1863 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2939	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3560	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.2 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.372	
	S	
Space mean speed in ramp influence area,	S = 59.6	mph
	R	
Space mean speed in outer lanes,	S = 65.1	mph
	0	
Space mean speed for all vehicles,	S = 61.4	mph

Phone: _____ Fax: _____
 E-mail: _____

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM BUILD-Alternative 2
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/Pioneer Trail
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	70.0	mph
Volume on freeway	4408	vph

-----On Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	570	vph
Length of first accel/decel lane	1230	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	791	vph
Position of adjacent Ramp	Upstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1000	ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4408	570	791	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1160	150	208	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4802	621	862	pcph

----- Estimation of V12 Merge Areas -----

L = 611.64 (Equation 13-6 or 13-7)

EQ

P = 0.612 Using Equation 3

FM

v = v (P) = 2939 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5423	7200	No
FO			
v or v	1863 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2939	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3560	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 25.2 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.397	
	S	
Space mean speed in ramp influence area,	S = 58.9	mph
	R	
Space mean speed in outer lanes,	S = 65.1	mph
	0	
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4604	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	710	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4604	710		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1212	187		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5016	774	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.599 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3315$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5016	7200	No
$v_{FO} = v_F - v_R$	4242	7200	No
v_R	774	2100	No
v_3 or v_{av34}	1701 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3315$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3315	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 30.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.433	
Space mean speed in ramp influence area,	S _R = 60.7	mph
Space mean speed in outer lanes,	S ₀ = 79.5	mph
Space mean speed for all vehicles,	S = 66.0	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: PM Build
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3766	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	570	vph	
Length of first accel/decel lane	220	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3766	570		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	991	150		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4103	621	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.629 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2811$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4103	7200	No
$v_{FO} = v_F - v_R$	3482	7200	No
v_R	621	2100	No
v_3 or v_{av34}	1292 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2811$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2811	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 26.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.419	
Space mean speed in ramp influence area,	S _R = 61.2	mph
Space mean speed in outer lanes,	S ₀ = 81.1	mph
Space mean speed for all vehicles,	S = 66.3	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3894	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1021	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3894	1021		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1025	269		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4242	1112	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 2478 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5354	7200	No
FO			
v or v	1764 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2478	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3590	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 31.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.443	
	S	
Space mean speed in ramp influence area,	S = 60.4	mph
	R	
Space mean speed in outer lanes,	S = 70.4	mph
	0	
Space mean speed for all vehicles,	S = 63.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3196	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	941	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3196	941		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	841	248		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	3482	1025	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.584 Using Equation 3

FM

v = v (P) = 2034 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4507	7200	No
FO			
v or v	1448 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2034	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3059	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 27.4 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.385	
	S	
Space mean speed in ramp influence area,	S = 62.3	mph
	R	
Space mean speed in outer lanes,	S = 71.6	mph
	0	
Space mean speed for all vehicles,	S = 65.0	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3654	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	465	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	577	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3654	465	577	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	962	122	152	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3981	507	629	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.637 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2720$ pc/h
FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	3981	7200	No
$v_{FO} = v_F - v_R$	3474	7200	No
v_R	507	1900	No
v_3 or v_{av34}	1261 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2720$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2720	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 24.8$ pc/mi/ln
Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.604	
Space mean speed in ramp influence area,	S _R = 55.1	mph
Space mean speed in outer lanes,	S ₀ = 81.3	mph
Space mean speed for all vehicles,	S = 61.3	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 SB off Ramp
 Junction: I-95/SR 44
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4067	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	413	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4067	413		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1070	109		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4431	450	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.629 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 2952 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4431	7200	No
$v_{FO} = v_F - v_R$	3981	7200	No
v_R	450	2100	No
$v_3 \text{ or } v_{av34}$	1479 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 2952$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	2952	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 27.6 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	D = 0.404	
Space mean speed in ramp influence area,	S _R = 61.7	mph
Space mean speed in outer lanes,	S ₀ = 80.4	mph
Space mean speed for all vehicles,	S = 66.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp - LOOP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4625	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	25.0	mph	
Volume on ramp	702	vph	
Length of first accel/decel lane	315	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	681	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	On		
Distance to adjacent ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4625	702	681	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1217	185	179	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	5039	765	742	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.599 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3324 \text{ pc/h}$

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v = v_{12}$	5039	7200	No
$v_{Fi} = v_F - v_R$	4274	7200	No
v_R	765	1900	No
$v_3 \text{ or } v_{av34}$	1715 pc/h	(Equation 13-14 or 13-17)	
Is $v_3 \text{ or } v_{av34} > 2700 \text{ pc/h?}$		No	
Is $v_3 \text{ or } v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3324$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3324	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 30.0 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.627	
Space mean speed in ramp influence area,	S _R = 54.3	mph
Space mean speed in outer lanes,	S ₀ = 79.5	mph
Space mean speed for all vehicles,	S = 60.9	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5025	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	400	vph	
Length of first accel/decel lane	225	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5025	400		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1322	105		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5475	436	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.603 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3475$ pc/h
 12 R F R FD

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{12} = v_{12}$	5475	7200	No
$v_{FO} = v_F - v_R$	5039	7200	No
v_R	436	2100	No
v_3 or v_{av34}	2000 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3475$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3475	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 32.1$ pc/mi/ln
 Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.402	
Space mean speed in ramp influence area,	S _R = 61.7	mph
Space mean speed in outer lanes,	S ₀ = 78.4	mph
Space mean speed for all vehicles,	S = 66.9	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3189	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	577	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	465	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3189	577	465	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	839	152	122	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3474	629	507	pcph

----- Estimation of V12 Merge Areas -----

L = 838.68 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 2066 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4103	7200	No
FO			
v or v	1408 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2066	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2695	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 22.4 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.330	
	S	
Space mean speed in ramp influence area,	S = 64.1	mph
	R	
Space mean speed in outer lanes,	S = 71.7	mph
	0	
Space mean speed for all vehicles,	S = 66.5	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 44
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3923	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	681	vph	
Length of first accel/decel lane	610	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	Yes		
Volume on adjacent Ramp	702	vph	
Position of adjacent Ramp	Upstream		
Type of adjacent Ramp	Off		
Distance to adjacent Ramp	1300	ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3923	681	702	vph
Peak-hour factor, PHF	0.95	0.95	0.95	
Peak 15-min volume, v15	1032	179	185	v
Trucks and buses	7	7	7	%
Recreational vehicles	0	0	0	%
Terrain type:	Level	Level	Level	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	0.966	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	4274	742	765	pcph

----- Estimation of V12 Merge Areas -----

L = 1034.06 (Equation 13-6 or 13-7)

EQ

P = 0.595 Using Equation 3

FM

v = v (P) = 2541 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5016	7200	No
FO			
v or v	1733 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2541	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3283	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.9 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.376	
	S	
Space mean speed in ramp influence area,	S = 62.6	mph
	R	
Space mean speed in outer lanes,	S = 70.6	mph
	0	
Space mean speed for all vehicles,	S = 65.1	mph

Phone: Fax:
 E-mail:

-----Diverge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 NB off Ramp
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5109	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	634	vph	
Length of first accel/decel lane	255	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5109	634		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1344	167		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5566	691	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.589 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3563$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5566	7200	No
$v_{FO} = v_F - v_R$	4875	7200	No
v_R	691	2100	No
v_3 or v_{av34}	2003 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3563$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3563	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 32.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.425	
Space mean speed in ramp influence area,	S _R = 61.0	mph
Space mean speed in outer lanes,	S ₀ = 78.4	mph
Space mean speed for all vehicles,	S = 66.3	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 NB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	75.0	mph
Volume on freeway	4279	vph

-----Off Ramp Data-----

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	40.0	mph
Volume on ramp	504	vph
Length of first accel/decel lane	255	ft
Length of second accel/decel lane		ft

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp
Volume, V (vph)	4279	504	vph
Peak-hour factor, PHF	0.95	0.95	
Peak 15-min volume, v15	1126	133	v
Trucks and buses	7	7	%
Recreational vehicles	0	0	%
Terrain type:	Level	Level	
Grade	0.00 %	0.00 %	%
Length	0.00 mi	0.00 mi	mi
Trucks and buses PCE, ET	1.5	1.5	
Recreational vehicle PCE, ER	1.2	1.2	

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4662	549	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.618 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3092$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	4662	7200	No
$v_{FO} = v_F - v_R$	4113	7200	No
v_R	549	2100	No
v_3 or v_{av34}	1570 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3092$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3092	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 28.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.412	
Space mean speed in ramp influence area,	S _R = 61.4	mph
Space mean speed in outer lanes,	S ₀ = 80.1	mph
Space mean speed for all vehicles,	S = 66.6	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4475	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1228	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4475	1228		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1178	323		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4875	1338	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 2844 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	6213	7200	No
FO			
v or v	2031 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2844	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	4182	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 36.2 pc/mi/ln

R R 12 A E

Level of service for ramp-freeway junction areas of influence E

----- Speed Estimation -----

Intermediate speed variable,	M = 0.560	
	S	
Space mean speed in ramp influence area,	S = 56.5	mph
	R	
Space mean speed in outer lanes,	S = 69.5	mph
	0	
Space mean speed for all vehicles,	S = 60.2	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 NB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3775	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	986	vph	
Length of first accel/decel lane	210	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3775	986		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	993	259		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4113	1074	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.583 Using Equation 3

FM

v = v (P) = 2399 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5187	7200	No
FO			
v or v	1714 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2399	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3473	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 30.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.430	
	S	
Space mean speed in ramp influence area,	S = 60.8	mph
	R	
Space mean speed in outer lanes,	S = 70.6	mph
	0	
Space mean speed for all vehicles,	S = 63.7	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: AM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4719	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1004	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4719	1004		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1242	264		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5141	1094	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.581 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 3446$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5141	7200	No
$v_{FO} = v_F - v_R$	4047	7200	No
v_R	1094	2100	No
v_3 or v_{av34}	1695 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 3446$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	3446	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 32.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	D = 0.461	
Space mean speed in ramp influence area,	S _R = 59.8	mph
Space mean speed in outer lanes,	S ₀ = 79.6	mph
Space mean speed for all vehicles,	S = 65.1	mph

Phone: Fax:
E-mail:

-----Diverge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB off Ramp
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	5834	vph	

-----Off Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	40.0	mph	
Volume on ramp	1196	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5834	1196		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1535	315		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	6356	1303	pcph

----- Estimation of V12 Diverge Areas -----

L = (Equation 13-12 or 13-13)

EQ

P = 0.541 Using Equation 9

FD

$v_{12} = v_R + (v_F - v_R) P = 4037$ pc/h

----- Capacity Checks -----

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	6356	7200	No
$v_{FO} = v_F - v_R$	5053	7200	No
v_R	1303	2100	No
v_3 or v_{av34}	2319 pc/h	(Equation 13-14 or 13-17)	
Is v_3 or $v_{av34} > 2700$ pc/h?		No	
Is v_3 or $v_{av34} > 1.5 v_{12} / 2$		No	
If yes, $v_{12A} = 4037$		(Equation 13-15, 13-16, 13-18, or 13-19)	

----- Flow Entering Diverge Influence Area -----

	Actual	Max Desirable	Violation?
v_{12}	4037	4400	No

----- Level of Service Determination (if not F) -----

Density, $D = 4.252 + 0.0086 v_{12} - 0.009 L_D = 37.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

----- Speed Estimation -----

Intermediate speed variable,	D = 0.480	
Space mean speed in ramp influence area,	S _R = 59.2	mph
Space mean speed in outer lanes,	S ₀ = 77.1	mph
Space mean speed for all vehicles,	S = 64.6	mph

Phone: Fax:
 E-mail:

-----Merge Analysis-----

Analyst: RN
 Agency/Co.: GMB
 Date performed: 7/10/2014
 Analysis time period: AM BUILD
 Freeway/Dir of Travel: I-95 SB ON RAMP
 Junction: I-95/SR 421
 Jurisdiction: VOLUSIA
 Analysis Year: 2042
 Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	3715	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	518	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	3715	518		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	978	136		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4047	564	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 2365 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	4611	7200	No
FO			
v or v	1682 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2365	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	2929	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L = 26.5 pc/mi/ln

R R 12 A C

Level of service for ramp-freeway junction areas of influence C

----- Speed Estimation -----

Intermediate speed variable,	M = 0.374	
	S	
Space mean speed in ramp influence area,	S = 62.7	mph
	R	
Space mean speed in outer lanes,	S = 70.7	mph
	0	
Space mean speed for all vehicles,	S = 65.4	mph

Phone: Fax:
E-mail:

-----Merge Analysis-----

Analyst: RN
Agency/Co.: GMB
Date performed: 7/10/2014
Analysis time period: PM BUILD
Freeway/Dir of Travel: I-95 SB ON RAMP
Junction: I-95/SR 421
Jurisdiction: VOLUSIA
Analysis Year: 2042
Description: Pioneer Trail IJR

-----Freeway Data-----

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	75.0	mph	
Volume on freeway	4638	vph	

-----On Ramp Data-----

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	609	vph	
Length of first accel/decel lane	250	ft	
Length of second accel/decel lane		ft	

-----Adjacent Ramp Data (if one exists)-----

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

-----Conversion to pc/h Under Base Conditions-----

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	4638	609		vph
Peak-hour factor, PHF	0.95	0.95		
Peak 15-min volume, v15	1221	160		v
Trucks and buses	7	7		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade		%	%	%
Length		mi	mi	mi
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		

Heavy vehicle adjustment, fHV	0.966	0.966	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	5053	663	pcph

----- Estimation of V12 Merge Areas -----

L = (Equation 13-6 or 13-7)

EQ

P = 0.585 Using Equation 3

FM

v = v (P) = 2953 pc/h

12 F FM

----- Capacity Checks -----

	Actual	Maximum	LOS F?
v	5716	7200	No
FO			
v or v	2100 pc/h	(Equation 13-14 or 13-17)	
3 av34			
Is v or v	> 2700 pc/h?	No	
3 av34			
Is v or v	> 1.5 v /2	Yes	
3 av34	12		
If yes, v	= 2953	(Equation 13-15, 13-16, 13-18, or 13-19)	
12A			

----- Flow Entering Merge Influence Area -----

	Actual	Max Desirable	Violation?
v	3616	4600	No
12A			

----- Level of Service Determination (if not F) -----

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 31.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

----- Speed Estimation -----

Intermediate speed variable,	M = 0.446	
	S	
Space mean speed in ramp influence area,	S = 60.3	mph
	R	
Space mean speed in outer lanes,	S = 69.2	mph
	0	
Space mean speed for all vehicles,	S = 63.3	mph

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	440	38	310	1023	50	72	287	288	40	219	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.993				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3480	0	1752	1845	1568	1752	1808	0
Flt Permitted	0.950			0.950			0.397			0.328		
Satd. Flow (perm)	1752	3505	1568	3400	3480	0	732	1845	1568	605	1808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		6				303		7	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	43	463	40	326	1077	53	76	302	303	42	231	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	463	40	326	1130	0	76	302	303	42	267	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	14.0	48.0	48.0	25.0	59.0		37.0	37.0	37.0	37.0	37.0	
Total Split (%)	12.7%	43.6%	43.6%	22.7%	53.6%		33.6%	33.6%	33.6%	33.6%	33.6%	
Maximum Green (s)	7.0	41.0	41.0	18.0	52.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	7.2	49.7	49.7	15.3	63.1		24.0	24.0	24.0	24.0	24.0	
Actuated g/C Ratio	0.07	0.45	0.45	0.14	0.57		0.22	0.22	0.22	0.22	0.22	
v/c Ratio	0.38	0.29	0.05	0.69	0.57		0.48	0.75	0.52	0.32	0.67	
Control Delay	58.7	21.2	0.1	52.7	18.6		46.3	51.6	7.2	40.9	46.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	21.2	0.1	52.7	18.6		46.3	51.6	7.2	40.9	46.0	
LOS	E	C	A	D	B		D	D	A	D	D	
Approach Delay		22.6			26.2			31.3			45.3	
Approach LOS		C			C			C			D	

Intersection Summary

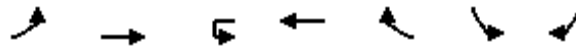
Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 28.7
 Intersection LOS: C
 Intersection Capacity Utilization 85.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44

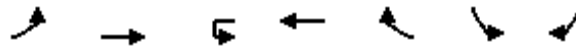


Lanes, Volumes, Timings
103: SR 44 & Williamson Blvd

2022 NBA
6/19/2015



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗	↑↑	↖	↖	↖
Volume (vph)	38	781	53	1459	111	167	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		515		375	250	250
Storage Lanes	1		1		1	1	0
Taper Length (ft)	45		50			50	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Flt					0.850		0.850
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	1752	3505	1752	3505	1568	1752	1568
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	1752	3505	1752	3505	1568	1752	1568
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)					117		8
Link Speed (mph)		65		65		30	
Link Distance (ft)		8741		1490		634	
Travel Time (s)		91.7		15.6		14.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	822	56	1536	117	176	35
Shared Lane Traffic (%)							
Lane Group Flow (vph)	40	822	56	1536	117	176	35
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		28		28		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Number of Detectors	1	2	1	2	1	1	1
Detector Template	Left	Thru	Left	Thru	Right	Left	Right
Leading Detector (ft)	20	100	20	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			
Detector 2 Size(ft)		6		6			
Detector 2 Type		Cl+Ex		Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)		0.0		0.0			
Turn Type	Prot	NA	Prot	NA	Perm	Prot	pm+ov
Protected Phases	1	6	5	2		8	1
Permitted Phases					2		8
Detector Phase	1	6	5	2	2	8	1

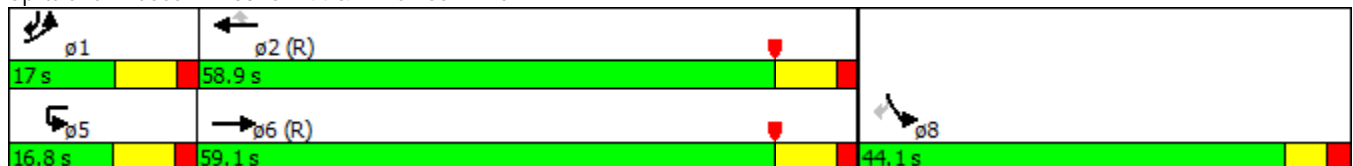


Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Switch Phase							
Minimum Initial (s)	5.0	16.0	5.0	16.0	16.0	7.0	5.0
Minimum Split (s)	17.0	23.5	12.5	36.5	36.5	44.1	17.0
Total Split (s)	17.0	59.1	16.8	58.9	58.9	44.1	17.0
Total Split (%)	14.2%	49.3%	14.0%	49.1%	49.1%	36.8%	14.2%
Maximum Green (s)	9.5	51.6	9.3	51.4	51.4	38.0	9.5
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	3.7	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.4	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	6.1	7.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None
Walk Time (s)				7.0	7.0	7.0	
Flash Dont Walk (s)				22.0	22.0	31.0	
Pedestrian Calls (#/hr)				0	0	0	
Act Effct Green (s)	8.2	74.9	9.2	75.8	75.8	17.5	31.8
Actuated g/C Ratio	0.07	0.62	0.08	0.63	0.63	0.15	0.26
v/c Ratio	0.34	0.38	0.42	0.69	0.11	0.69	0.08
Control Delay	60.1	13.4	68.3	15.0	2.6	62.2	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	13.4	68.3	15.0	2.6	62.2	24.9
LOS	E	B	E	B	A	E	C
Approach Delay		15.6		15.9		56.0	
Approach LOS		B		B		E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	47 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	18.8
Intersection LOS:	B
Intersection Capacity Utilization	64.6%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 103: SR 44 & Williamson Blvd



Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	781	220	229	1450	0	0	0	0	0	0	173
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	822	232	241	1526	0	0	0	0	0	0	182

Major/Minor

	Major1			Major2			Minor2		
Conflicting Flow All	1526	0	0	822	0	0	2419	2830	763
Stage 1	-	-	-	-	-	-	2008	2008	-
Stage 2	-	-	-	-	-	-	411	822	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	428	-	-	797	-	-	27	17	345
Stage 1	-	-	-	-	-	-	89	101	-
Stage 2	-	-	-	-	-	-	635	384	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	428	-	-	797	-	-	19	0	345
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	0	-
Stage 1	-	-	-	-	-	-	62	0	-
Stage 2	-	-	-	-	-	-	635	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	1.6	26.5
HCM LOS			D

Minor Lane/Major Mvmt

	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	428	-	-	797	-	-	345
HCM Lane V/C Ratio	-	-	-	0.302	-	-	0.528
HCM Control Delay (s)	0	-	-	11.5	-	-	26.5
HCM Lane LOS	A	-	-	B	-	-	D
HCM 95th %tile Q(veh)	0	-	-	1.3	-	-	2.9

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2022 NBA
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	120	1147	0	0	1245	660	434	0	99	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.124						0.950					
Satd. Flow (perm)	229	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						695			105			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	1207	0	0	1311	695	457	0	104	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	1207	0	0	1311	695	457	0	104	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2022 NBA
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	17.0	88.0			71.0	71.0	32.0		32.0			
Total Split (%)	14.2%	73.3%			59.2%	59.2%	26.7%		26.7%			
Maximum Green (s)	10.0	80.5			63.5	63.5	25.9		25.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effect Green (s)	84.7	84.2			69.0	69.0	22.2		22.2			
Actuated g/C Ratio	0.71	0.70			0.58	0.58	0.18		0.18			
v/c Ratio	0.48	0.49			0.65	0.58	0.73		0.28			
Control Delay	16.1	9.7			7.0	1.4	52.9		9.2			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	16.1	9.7			7.0	1.4	52.9		9.2			
LOS	B	A			A	A	D		A			
Approach Delay		10.3			5.1							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 21 (18%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 12.6
 Intersection LOS: B
 Intersection Capacity Utilization 68.9%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2022 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↖	↗
Volume (vph)	133	1113	1702	82	80	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.057				0.950	
Satd. Flow (perm)	105	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				65		119
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	140	1172	1792	86	84	214
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	1172	1792	86	84	214
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2022 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	15.0	97.3	82.3	82.3	22.7	22.7
Total Split (%)	12.5%	81.1%	68.6%	68.6%	18.9%	18.9%
Maximum Green (s)	7.5	89.8	74.8	74.8	16.0	16.0
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	92.8	92.8	77.2	77.2	13.0	13.0
Actuated g/C Ratio	0.77	0.77	0.64	0.64	0.11	0.11
v/c Ratio	0.73	0.43	0.79	0.08	0.44	0.78
Control Delay	44.1	4.5	19.6	3.4	56.8	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	4.5	19.6	3.4	56.8	42.2
LOS	D	A	B	A	E	D
Approach Delay	8.7		18.8		46.3	
Approach LOS	A		B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 117 (98%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 17.4
 Intersection LOS: B
 Intersection Capacity Utilization 77.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	118	28	22	154	146	45	133	20	135	127	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.972			0.927				0.850			0.850
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1811	0	1770	1727	0	0	1840	1583	1770	1863	1583
Flt Permitted	0.371			0.660				0.988		0.950		
Satd. Flow (perm)	691	1811	0	1229	1727	0	0	1840	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			43				227			227
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	189	124	29	23	162	154	47	140	21	142	134	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	189	153	0	23	316	0	0	187	21	142	134	177
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	55.0		12.0	47.0		30.0	30.0	30.0	23.0	23.0	23.0
Total Split (%)	16.7%	45.8%		10.0%	39.2%		25.0%	25.0%	25.0%	19.2%	19.2%	19.2%
Maximum Green (s)	13.0	48.0		5.0	40.0		23.0	23.0	23.0	16.0	16.0	16.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	60.0	52.8		46.3	41.3		23.0	23.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.50	0.44		0.39	0.34		0.19	0.19	0.13	0.13	0.13	0.13
v/c Ratio	0.42	0.19		0.05	0.51		0.53	0.04	0.60	0.54	0.43	0.43
Control Delay	19.9	21.0		13.3	21.1		49.9	0.1	60.6	57.4	5.6	5.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	21.0		13.3	21.1		49.9	0.1	60.6	57.4	5.6	5.6
LOS	B	C		B	C		D	A	E	E	A	A
Approach Delay		20.4			20.6		44.9				38.2	
Approach LOS		C			C		D				D	

Intersection Summary

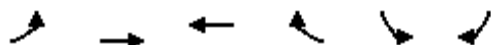
Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 67.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	174	131	163	323	209	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			200	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Fl _t Permitted	0.569				0.950	
Satd. Flow (perm)	1060	1863	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				340		134
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	2836		1084	
Travel Time (s)		9.2	43.0		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	183	138	172	340	220	134
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	138	172	340	220	134
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 NBA
6/19/2015

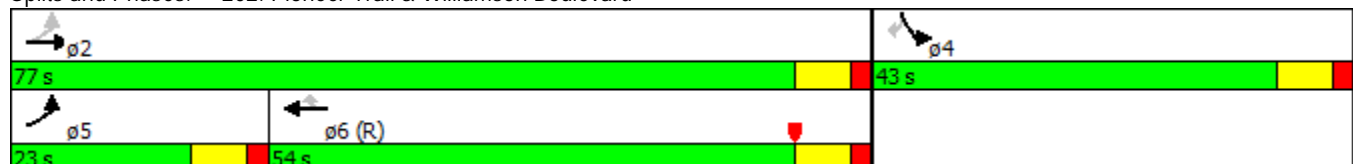


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	23.0	77.0	54.0	54.0	43.0	43.0
Total Split (%)	19.2%	64.2%	45.0%	45.0%	35.8%	35.8%
Maximum Green (s)	16.0	70.0	47.0	47.0	36.0	36.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	70.0	70.0	51.7	51.7	36.0	36.0
Actuated g/C Ratio	0.58	0.58	0.43	0.43	0.30	0.30
v/c Ratio	0.27	0.13	0.21	0.39	0.41	0.24
Control Delay	9.3	7.9	23.0	3.8	36.5	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	7.9	23.0	3.8	36.5	6.2
LOS	A	A	C	A	D	A
Approach Delay		8.7	10.2		25.0	
Approach LOS		A	B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 109 (91%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 14.2
 Intersection LOS: B
 Intersection Capacity Utilization 51.2%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	26	170	316	23	125	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	179	333	24	132	226

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	834	345	0	0	357	0
Stage 1	345	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	338	698	-	-	1202	-
Stage 1	717	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	301	698	-	-	1202	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	WB	NB	SB
HCM Control Delay, s	14.3		0	3.1
HCM LOS	B			

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	594	1202	-
HCM Lane V/C Ratio	-	-	0.347	0.109	-
HCM Control Delay (s)	-	-	14.3	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.5	0.4	-

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	64	188	18	76	205	54	42	52	57	8	127	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.978			0.949			0.959	
Flt Protected		0.988			0.989			0.986			0.998	
Satd. Flow (prot)	0	1824	0	0	1802	0	0	1743	0	0	1783	0
Flt Permitted		0.845			0.861			0.705			0.984	
Satd. Flow (perm)	0	1560	0	0	1569	0	0	1246	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			15			32			23	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	67	198	19	80	216	57	44	55	60	8	134	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	0	0	353	0	0	159	0	0	204	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2022 NBA
 6/19/2015

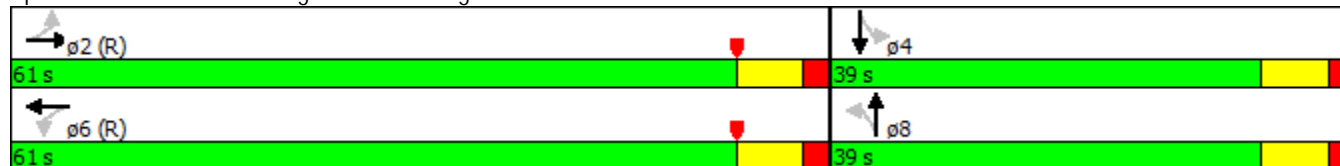


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	61.0	61.0		61.0	61.0		39.0	39.0		39.0	39.0	
Total Split (%)	61.0%	61.0%		61.0%	61.0%		39.0%	39.0%		39.0%	39.0%	
Maximum Green (s)	54.0	54.0		54.0	54.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		68.8			68.8			17.2			17.2	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
v/c Ratio		0.26			0.33			0.66			0.64	
Control Delay		7.0			7.4			44.0			43.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.0			7.4			44.0			43.0	
LOS		A			A			D			D	
Approach Delay		7.0			7.4			44.0			43.0	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 59 (59%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 20.4
 Intersection LOS: C
 Intersection Capacity Utilization 61.7%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	141	7	2	188	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	148	7	2	198	8	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	148
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1434
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1434
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	685	-	-	1434	-
HCM Lane V/C Ratio	0.015	-	-	0.001	-
HCM Control Delay (s)	10.3	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	134	44	99	115	40	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	46	104	121	42	104

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	187
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1387
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1387
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	718	-	-	1387	-
HCM Lane V/C Ratio	0.204	-	-	0.075	-
HCM Control Delay (s)	11.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	792	8	52	535	97	22	38	35	152	11	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.872
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1624	0
Flt Permitted	0.950			0.950			0.705			0.438		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1313	1863	1583	816	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167			68
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	134	834	8	55	563	102	23	40	37	160	12	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	834	8	55	563	102	23	40	37	160	80	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2022 NBA
6/19/2015

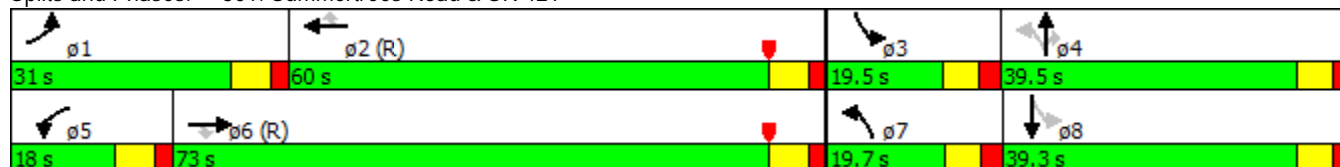


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Maximum Green (s)	24.5	66.5	66.5	11.5	53.5	53.5	13.2	33.0	33.0	13.0	32.8	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	16.6	96.6	96.6	10.2	87.5	87.5	15.6	10.4	10.4	25.5	17.7	
Actuated g/C Ratio	0.11	0.64	0.64	0.07	0.58	0.58	0.10	0.07	0.07	0.17	0.12	
v/c Ratio	0.69	0.69	0.01	0.46	0.52	0.10	0.15	0.31	0.14	0.73	0.32	
Control Delay	81.3	24.1	0.0	78.8	22.8	0.2	51.2	73.0	1.1	74.6	21.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.3	24.1	0.0	78.8	22.8	0.2	51.2	73.0	1.1	74.6	21.2	
LOS	F	C	A	E	C	A	D	E	A	E	C	
Approach Delay		31.7			23.8			41.4			56.8	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 32.4
 Intersection LOS: C
 Intersection Capacity Utilization 78.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	146	785	102	444	455	548	111	739	811	605	329	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.983				0.850			0.850		0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4999	0	3433	3539	1583	3433	3539	2787	3433	3447	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4999	0	3433	3539	1583	3433	3539	2787	3433	3447	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				85			140			16
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	154	826	107	467	479	577	117	778	854	637	346	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	933	0	467	479	577	117	778	854	637	418	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3		8
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2022 NBA
6/19/2015

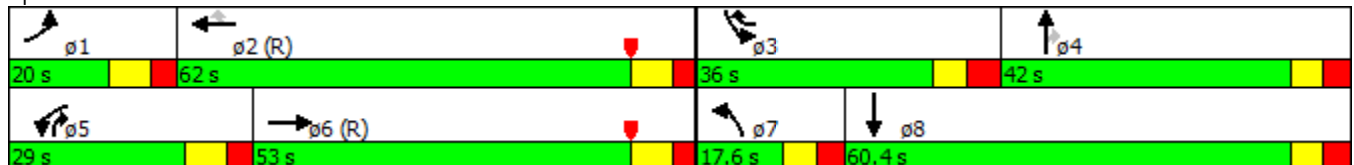


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	20.0	53.0		29.0	62.0	36.0	17.6	42.0	29.0	36.0		60.4
Total Split (%)	12.5%	33.1%		18.1%	38.8%	22.5%	11.0%	26.3%	18.1%	22.5%		37.8%
Maximum Green (s)	12.0	45.0		21.0	54.0	28.0	10.1	34.5	21.0	28.0		52.9
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effct Green (s)	11.2	45.0		21.0	54.8	90.8	9.5	34.5	63.0	28.0		53.5
Actuated g/C Ratio	0.07	0.28		0.13	0.34	0.57	0.06	0.22	0.39	0.18		0.33
v/c Ratio	0.64	0.66		1.04	0.40	0.62	0.57	1.02	0.72	1.06		0.36
Control Delay	84.8	52.6		110.3	33.6	17.1	84.5	98.2	38.0	115.3		39.9
Queue Delay	0.0	0.0		0.0	0.0	1.1	0.0	0.0	1.3	0.0		0.0
Total Delay	84.8	52.6		110.3	33.6	18.2	84.5	98.2	39.3	115.3		39.9
LOS	F	D		F	C	B	F	F	D	F		D
Approach Delay		57.1			51.3			68.5				85.4
Approach LOS		E			D			E				F

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 115 (72%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 64.7
 Intersection LOS: E
 Intersection Capacity Utilization 93.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2035	166	246	1130	0	0	0	0	634	0	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr't		0.989										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5029	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	5029	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12										188
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2142	175	259	1189	0	0	0	0	667	0	334
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2317	0	259	1189	0	0	0	0	667	0	334
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2022 NBA
 6/19/2015

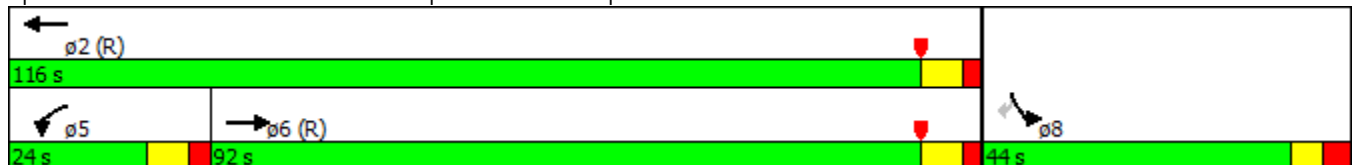


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		92.0		24.0	116.0					44.0		44.0
Total Split (%)		57.5%		15.0%	72.5%					27.5%		27.5%
Maximum Green (s)		84.5		16.5	108.5					36.5		36.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effct Green (s)		87.1		15.6	110.2					34.8		34.8
Actuated g/C Ratio		0.54		0.10	0.69					0.22		0.22
v/c Ratio		0.85		0.78	0.49					0.89		0.44
Control Delay		31.2		106.0	7.2					75.8		24.5
Queue Delay		0.5		0.0	0.0					0.0		0.0
Total Delay		31.7		106.0	7.2					75.8		24.5
LOS		C		F	A					E		C
Approach Delay		31.7			24.8							
Approach LOS		C			C							

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 117 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 35.3
 Intersection LOS: D
 Intersection Capacity Utilization 93.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2022 NBA
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	421	2248	0	0	1187	846	189	0	350	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						519			82			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	443	2366	0	0	1249	891	199	0	368	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	443	2366	0	0	1249	891	199	0	368	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2022 NBA
 6/19/2015

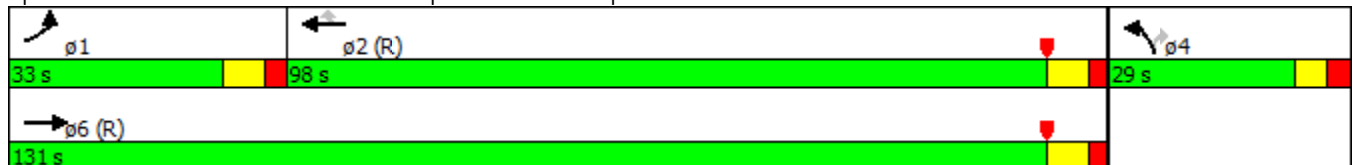


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	33.0	131.0			98.0	98.0	29.0		29.0			
Total Split (%)	20.6%	81.9%			61.3%	61.3%	18.1%		18.1%			
Maximum Green (s)	25.5	123.5			90.5	90.5	22.0		22.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	24.1	124.8			93.2	93.2	20.7		20.7			
Actuated g/C Ratio	0.15	0.78			0.58	0.58	0.13		0.13			
v/c Ratio	0.86	0.60			0.42	0.78	0.87		0.85			
Control Delay	74.7	4.9			4.9	12.9	101.2		71.4			
Queue Delay	0.0	0.4			0.0	2.9	0.0		0.0			
Total Delay	74.7	5.3			4.9	15.7	101.2		71.4			
LOS	E	A			A	B	F		E			
Approach Delay					16.3		9.4					
Approach LOS					B		A					

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 113 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 20.4
 Intersection LOS: C
 Intersection Capacity Utilization 93.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 NBA
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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2029	569	24	2033	0	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Frt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		272				74
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2136	599	25	2140	0	308
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2136	599	25	2140	0	308
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 NBA
6/19/2015

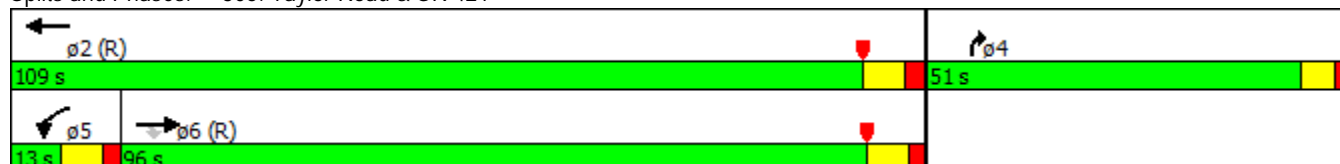


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	96.0	96.0	13.0	109.0		51.0
Total Split (%)	60.0%	60.0%	8.1%	68.1%		31.9%
Maximum Green (s)	89.0	89.0	6.0	101.5		44.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	107.3	107.3	7.7	116.2		29.8
Actuated g/C Ratio	0.67	0.67	0.05	0.73		0.19
v/c Ratio	0.63	0.52	0.29	0.58		0.86
Control Delay	12.3	6.5	77.6	8.7		68.8
Queue Delay	0.1	0.2	0.0	0.0		0.0
Total Delay	12.4	6.7	77.6	8.7		68.8
LOS	B	A	E	A		E
Approach Delay	11.2			9.5		
Approach LOS	B			A		

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 121 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 13.9
 Intersection LOS: B
 Intersection Capacity Utilization 68.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖↖	↑	↖	↖	↖↖	
Volume (vph)	154	1878	126	96	1302	164	475	55	42	255	32	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.991			0.983				0.850		0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5040	0	1770	4999	0	3433	1863	1583	1770	3107	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5040	0	1770	4999	0	3433	1863	1583	1770	3107	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			18				136		117	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	162	1977	133	101	1371	173	500	58	44	268	34	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	2110	0	101	1544	0	500	58	44	268	183	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2022 NBA
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	19.0	81.0		18.0	80.0		32.0	23.0	23.0	38.0	29.0	
Total Split (%)	11.9%	50.6%		11.3%	50.0%		20.0%	14.4%	14.4%	23.8%	18.1%	
Maximum Green (s)	10.5	73.0		10.0	72.0		25.0	16.0	16.0	31.0	22.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	17.8	76.5		13.8	72.0		24.8	11.3	11.3	31.9	14.9	
Actuated g/C Ratio	0.11	0.48		0.09	0.45		0.16	0.07	0.07	0.20	0.09	
v/c Ratio	0.83	0.87		0.66	0.68		0.94	0.44	0.18	0.76	0.46	
Control Delay	99.5	34.8		76.2	38.5		92.7	81.8	1.7	76.0	28.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	99.5	34.8		76.2	38.5		92.7	81.8	1.7	76.0	28.7	
LOS	F	C		E	D		F	F	A	E	C	
Approach Delay		39.4			40.9			85.0			56.8	
Approach LOS		D			D			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 106 (66%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 47.0
 Intersection LOS: D
 Intersection Capacity Utilization 91.9%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2022 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	572	1410	139	72	938	246	281	385	72	198	190	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.987				0.850		0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5019	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5019	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				259		13				308
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	602	1484	146	76	987	259	296	405	76	208	200	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	602	1630	0	76	987	259	296	481	0	208	200	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	568	60	467	1271	68	109	377	432	53	283	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t			0.850		0.992				0.850		0.981	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3477	0	1752	1845	1568	1752	1810	0
Fl _t Permitted	0.950			0.950			0.310			0.223		
Satd. Flow (perm)	1752	3505	1568	3400	3477	0	572	1845	1568	411	1810	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164		6				409		6	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	598	63	492	1338	72	115	397	455	56	298	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	598	63	492	1410	0	115	397	455	56	342	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

Lanes, Volumes, Timings
 101: Tomoka Farms Road & SR 44

2032 NBA
 6/19/2015

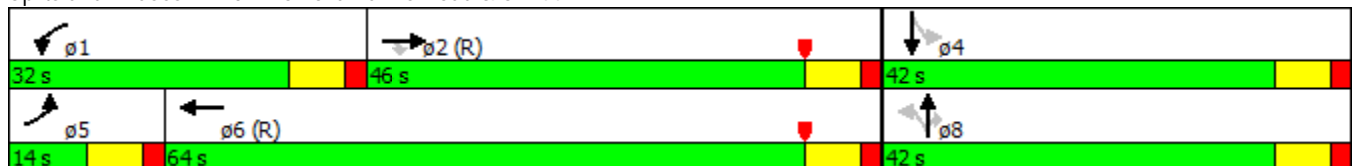


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	14.0	46.0	46.0	32.0	64.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	11.7%	38.3%	38.3%	26.7%	53.3%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	7.0	39.0	39.0	25.0	57.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	7.1	45.8	45.8	21.9	63.1		31.3	31.3	31.3	31.3	31.3	
Actuated g/C Ratio	0.06	0.38	0.38	0.18	0.53		0.26	0.26	0.26	0.26	0.26	
v/c Ratio	0.51	0.45	0.09	0.79	0.77		0.77	0.83	0.64	0.52	0.72	
Control Delay	72.7	30.5	0.2	56.7	28.1		72.9	56.3	9.7	55.5	48.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	72.7	30.5	0.2	56.7	28.1		72.9	56.3	9.7	55.5	48.2	
LOS	E	C	A	E	C		E	E	A	E	D	
Approach Delay		30.9			35.5			36.4			49.2	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 36.2
 Intersection LOS: D
 Intersection Capacity Utilization 97.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	899	120	460	1482	237	383	44	379	238	36	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		300	515		375	250		250	300		300
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Flt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			215			209			89			152
Link Speed (mph)		65		65			30			30		
Link Distance (ft)		8741		1490			520			490		
Travel Time (s)		91.7		15.6			11.8			11.1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	946	126	484	1560	249	403	46	399	251	38	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	946	126	484	1560	249	403	46	399	251	38	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28		28			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4	5	3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	5	3	8	1

Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

2032 NBA
6/19/2015

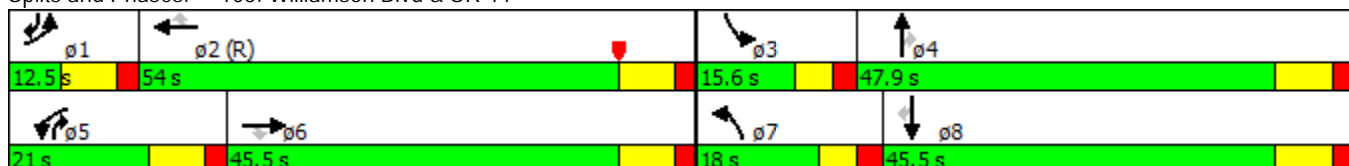


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	5.0	5.0	16.0	5.0
Minimum Split (s)	12.5	23.5	23.5	12.5	36.5	36.5	11.1	45.5	12.5	11.5	45.5	12.5
Total Split (s)	12.5	45.5	45.5	21.0	54.0	54.0	18.0	47.9	21.0	15.6	45.5	12.5
Total Split (%)	9.6%	35.0%	35.0%	16.2%	41.5%	41.5%	13.8%	36.8%	16.2%	12.0%	35.0%	9.6%
Maximum Green (s)	5.0	38.0	38.0	13.5	46.5	46.5	11.9	40.4	13.5	9.5	38.0	5.0
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.0	2.0	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	6.1	7.5	7.5	6.1	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0						7.0
Flash Dont Walk (s)					22.0	22.0						31.0
Pedestrian Calls (#/hr)					0	0						0
Act Effct Green (s)	9.2	45.5	45.5	33.2	72.2	72.2	16.1	17.4	53.4	10.0	16.0	23.3
Actuated g/C Ratio	0.07	0.35	0.35	0.26	0.56	0.56	0.12	0.13	0.41	0.08	0.12	0.18
v/c Ratio	0.37	0.77	0.18	0.56	0.80	0.26	0.96	0.19	0.57	0.96	0.17	0.10
Control Delay	60.1	50.4	5.0	43.0	22.1	2.7	90.1	51.6	25.6	106.6	53.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	50.4	5.0	43.0	22.1	2.7	90.1	51.6	25.6	106.6	53.2	0.5
LOS	E	D	A	D	C	A	F	D	C	F	D	A
Approach Delay		45.7			24.4			57.6				87.3
Approach LOS		D			C			E				F

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 70 (54%), Referenced to phase 2:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 40.3
 Intersection LOS: D
 Intersection Capacity Utilization 81.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 103: Williamson Blvd & SR 44



Intersection

Int Delay, s/veh 24.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1125	391	254	1829	0	0	0	0	0	0	350
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1184	412	267	1925	0	0	0	0	0	0	368

Major/Minor	Major1	Major2	Minor2						
Conflicting Flow All	1925	0	0	1184	0	0	3052	3644	963
Stage 1	-	-	-	-	-	-	2460	2460	-
Stage 2	-	-	-	-	-	-	592	1184	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	299	-	-	580	-	-	10	5	~ 254
Stage 1	-	-	-	-	-	-	49	59	-
Stage 2	-	-	-	-	-	-	513	259	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	299	-	-	580	-	-	5	0	~ 254
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	0	-
Stage 1	-	-	-	-	-	-	26	0	-
Stage 2	-	-	-	-	-	-	513	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2	260.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	-	-	580	-	-	254
HCM Lane V/C Ratio	-	-	-	0.461	-	-	1.45
HCM Control Delay (s)	0	-	-	16.4	-	-	260.3
HCM Lane LOS	A	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0	-	-	2.4	-	-	20.9

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2032 NBA
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	256	1456	0	0	1374	818	709	0	99	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.059						0.950					
Satd. Flow (perm)	109	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						755			97			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	269	1533	0	0	1446	861	746	0	104	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	269	1533	0	0	1446	861	746	0	104	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2032 NBA
 6/19/2015

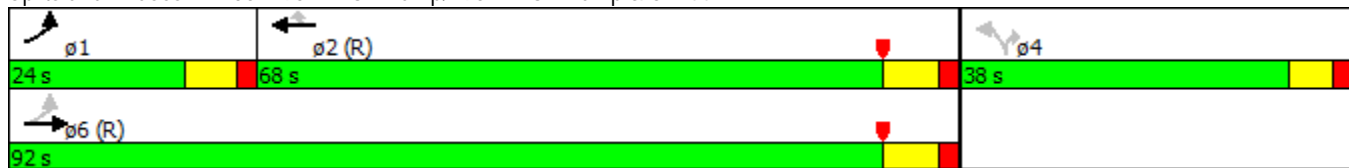


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	24.0	92.0			68.0	68.0	38.0		38.0			
Total Split (%)	18.5%	70.8%			52.3%	52.3%	29.2%		29.2%			
Maximum Green (s)	17.0	84.5			60.5	60.5	31.9		31.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effect Green (s)	85.5	85.0			61.2	61.2	31.4		31.4			
Actuated g/C Ratio	0.66	0.65			0.47	0.47	0.24		0.24			
v/c Ratio	0.95	0.67			0.88	0.76	0.91		0.23			
Control Delay	73.0	12.6			18.0	5.0	63.9		9.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	73.0	12.6			18.0	5.0	63.9		9.9			
LOS	E	B			B	A	E		A			
Approach Delay		21.6			13.2							
Approach LOS		C			B							

Intersection Summary

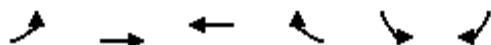
Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 15 (12%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 23.8
 Intersection LOS: C
 Intersection Capacity Utilization 87.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2032 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Volume (vph)	205	1350	1871	117	106	321
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Flt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Flt Permitted	0.047				0.950	
Satd. Flow (perm)	87	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				73		164
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	1421	1969	123	112	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	1421	1969	123	112	338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2032 NBA
6/19/2015

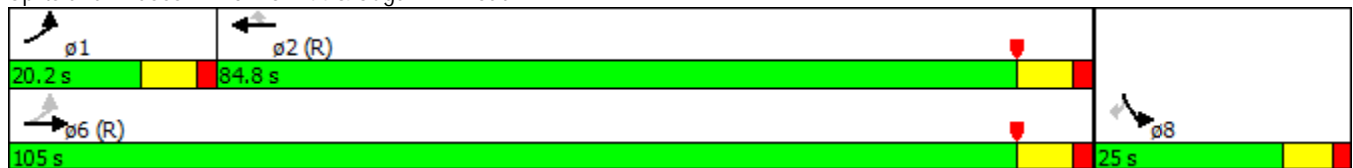


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	20.2	105.0	84.8	84.8	25.0	25.0
Total Split (%)	15.5%	80.8%	65.2%	65.2%	19.2%	19.2%
Maximum Green (s)	12.7	97.5	77.3	77.3	18.3	18.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	98.0	98.0	77.6	77.6	17.8	17.8
Actuated g/C Ratio	0.75	0.75	0.60	0.60	0.14	0.14
v/c Ratio	0.94	0.54	0.94	0.13	0.47	0.95
Control Delay	73.0	10.9	34.6	5.4	58.6	65.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	10.9	34.6	5.4	58.6	65.3
LOS	E	B	C	A	E	E
Approach Delay	19.1		32.9		63.6	
Approach LOS	B		C		E	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 120 (92%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 30.8
 Intersection LOS: C
 Intersection Capacity Utilization 87.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	273	212	36	29	270	236	51	151	34	220	144	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.978			0.930				0.850			0.850
Flt Protected	0.950			0.950				0.987		0.950		
Satd. Flow (prot)	1770	1822	0	1770	1732	0	0	1839	1583	1770	3539	1583
Flt Permitted	0.168			0.598				0.987		0.950		
Satd. Flow (perm)	313	1822	0	1114	1732	0	0	1839	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			36				210			262
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	287	223	38	31	284	248	54	159	36	232	152	262
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	261	0	31	532	0	0	213	36	232	152	262
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2032 NBA
6/19/2015

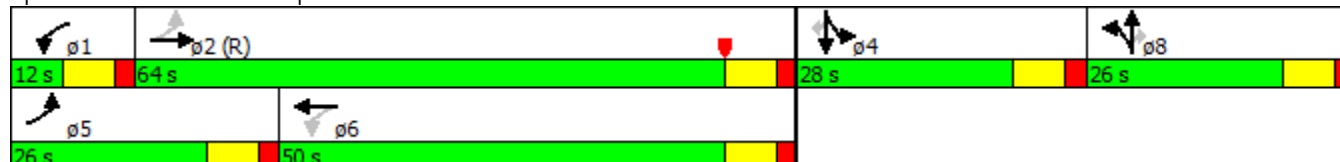


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	26.0	64.0		12.0	50.0		26.0	26.0	26.0	28.0	28.0	28.0
Total Split (%)	20.0%	49.2%		9.2%	38.5%		20.0%	20.0%	20.0%	21.5%	21.5%	21.5%
Maximum Green (s)	19.0	57.0		5.0	43.0		19.0	19.0	19.0	21.0	21.0	21.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		None	None	None	None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	71.4	64.2		52.7	47.4		17.9	17.9	19.8	19.8	19.8	19.8
Actuated g/C Ratio	0.55	0.49		0.41	0.36		0.14	0.14	0.15	0.15	0.15	0.15
v/c Ratio	0.79	0.29		0.06	0.81		0.85	0.09	0.87	0.28	0.57	0.57
Control Delay	35.8	21.7		9.0	30.2		82.5	0.4	82.9	49.9	10.7	10.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	21.7		9.0	30.2		82.5	0.4	82.9	49.9	10.7	10.7
LOS	D	C		A	C		F	A	F	D	B	B
Approach Delay		29.1			29.0		70.6			45.9		
Approach LOS		C			C		E			D		

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 16 (12%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 39.6
 Intersection LOS: D
 Intersection Capacity Utilization 90.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↕	↕	↗	↖	↗
Volume (vph)	271	229	315	490	347	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98		
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Flt Permitted	0.367				0.950	
Satd. Flow (perm)	684	3539	1863	1553	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				332		206
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	2836		1084	
Travel Time (s)		9.2	43.0		21.1	
Confl. Peds. (#/hr)				3		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	285	241	332	516	365	206
Shared Lane Traffic (%)						
Lane Group Flow (vph)	285	241	332	516	365	206
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	pm+ov	Prot	Perm

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 NBA
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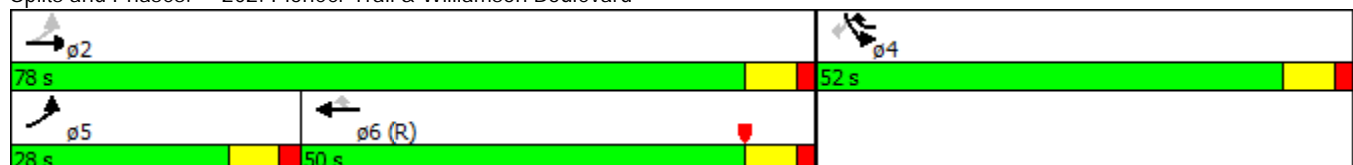


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases	5	2	6	4	4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	4	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	28.0	78.0	50.0	52.0	52.0	52.0
Total Split (%)	21.5%	60.0%	38.5%	40.0%	40.0%	40.0%
Maximum Green (s)	21.0	71.0	43.0	45.0	45.0	45.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	71.0	71.0	47.3	92.3	45.0	45.0
Actuated g/C Ratio	0.55	0.55	0.36	0.71	0.35	0.35
v/c Ratio	0.56	0.12	0.49	0.43	0.60	0.30
Control Delay	20.2	13.0	35.8	3.0	39.9	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	13.0	35.8	3.0	39.9	5.1
LOS	C	B	D	A	D	A
Approach Delay		16.9	15.9		27.3	
Approach LOS		B	B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 19.5
 Intersection LOS: B
 Intersection Capacity Utilization 68.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Intersection

Int Delay, s/veh 10.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	28	285	520	24	197	379
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	300	547	25	207	399

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1374	560	0
Stage 1	560	-	-
Stage 2	814	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	160	528	1000
Stage 1	572	-	-
Stage 2	436	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	127	528	1000
Mov Cap-2 Maneuver	127	-	-
Stage 1	572	-	-
Stage 2	346	-	-

Approach	WB	NB	SB
HCM Control Delay, s	40.6	0	3.3
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	412	1000	-
HCM Lane V/C Ratio	-	-	0.8	0.207	-
HCM Control Delay (s)	-	-	40.6	9.5	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	7.1	0.8	-

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	95	343	22	81	383	52	42	54	72	9	143	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.986			0.942			0.959	
Flt Protected		0.990			0.992			0.988			0.998	
Satd. Flow (prot)	0	1833	0	0	1822	0	0	1734	0	0	1783	0
Flt Permitted		0.795			0.854			0.654			0.985	
Satd. Flow (perm)	0	1472	0	0	1569	0	0	1148	0	0	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			10			33			19	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	100	361	23	85	403	55	44	57	76	9	151	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	484	0	0	543	0	0	177	0	0	229	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2032 NBA
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	75.0	75.0		75.0	75.0		35.0	35.0		35.0	35.0	
Total Split (%)	68.2%	68.2%		68.2%	68.2%		31.8%	31.8%		31.8%	31.8%	
Maximum Green (s)	68.0	68.0		68.0	68.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		76.8			76.8			19.2			19.2	
Actuated g/C Ratio		0.70			0.70			0.17			0.17	
v/c Ratio		0.47			0.49			0.78			0.71	
Control Delay		9.9			10.0			57.8			51.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.9			10.0			57.8			51.2	
LOS		A			B			E			D	
Approach Delay		9.9			10.0			57.8			51.2	
Approach LOS		A			B			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 22.5
 Intersection LOS: C
 Intersection Capacity Utilization 74.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	213	8	2	304	9	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	224	8	2	320	9	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	224
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1345
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1345
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	550	-	-	1345	-
HCM Lane V/C Ratio	0.023	-	-	0.002	-
HCM Control Delay (s)	11.7	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 7.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	204	49	159	196	77	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	215	52	167	206	81	242

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	266
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1298
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1298
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	19.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	572	-	-	1298	-
HCM Lane V/C Ratio	0.565	-	-	0.129	-
HCM Control Delay (s)	19.2	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.5	-	-	0.4	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	830	10	64	550	123	23	47	42	180	12	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t			0.850			0.850			0.850			0.873
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1626	0
Fl _t Permitted	0.950			0.950			0.702			0.441		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1308	1863	1583	821	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167			72
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	135	874	11	67	579	129	24	49	44	189	13	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	874	11	67	579	129	24	49	44	189	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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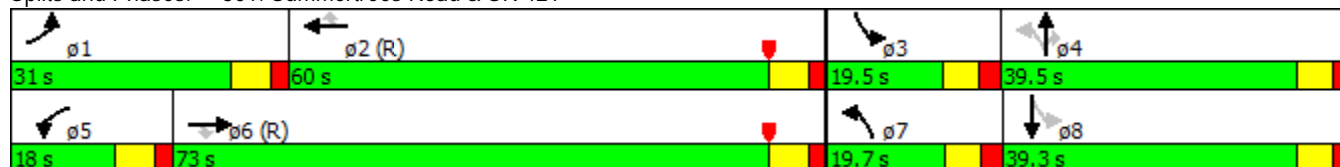


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Maximum Green (s)	24.5	66.5	66.5	11.5	53.5	53.5	13.2	33.0	33.0	13.0	32.8	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	16.7	95.2	95.2	11.1	86.9	86.9	16.0	10.7	10.7	26.0	18.2	
Actuated g/C Ratio	0.11	0.63	0.63	0.07	0.58	0.58	0.11	0.07	0.07	0.17	0.12	
v/c Ratio	0.69	0.74	0.01	0.52	0.54	0.13	0.15	0.37	0.16	0.84	0.33	
Control Delay	81.1	27.0	0.0	80.0	23.6	1.2	50.7	74.3	1.3	86.7	20.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.1	27.0	0.0	80.0	23.6	1.2	50.7	74.3	1.3	86.7	20.9	
LOS	F	C	A	E	C	A	D	E	A	F	C	
Approach Delay		33.8			24.8			42.0			66.3	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 35.1
 Intersection LOS: D
 Intersection Capacity Utilization 82.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	746	120	526	463	866	132	1179	950	903	539	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.979				0.850			0.850		0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				76			124			15
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	247	785	126	554	487	912	139	1241	1000	951	567	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	911	0	554	487	912	139	1241	1000	951	679	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↗↘	↑↑					↗↘		↗↘
Volume (vph)	0	2341	258	303	1419	0	0	0	0	718	0	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.985										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5009	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5009	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17										107
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2464	272	319	1494	0	0	0	0	756	0	459
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2736	0	319	1494	0	0	0	0	756	0	459
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2032 NBA
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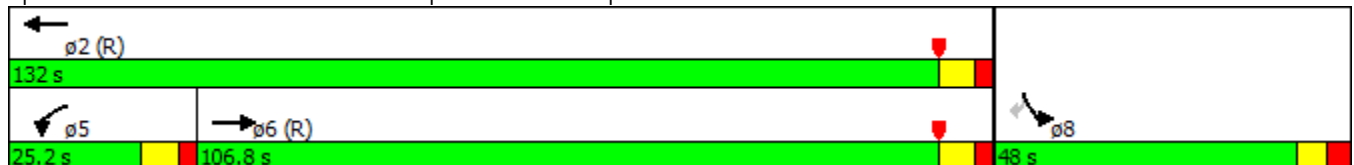


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		106.8		25.2	132.0					48.0		48.0
Total Split (%)		59.3%		14.0%	73.3%					26.7%		26.7%
Maximum Green (s)		99.3		17.7	124.5					40.5		40.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		99.3		17.7	124.5					40.5		40.5
Actuated g/C Ratio		0.55		0.10	0.69					0.22		0.22
v/c Ratio		0.99		0.95	0.61					0.98		0.65
Control Delay		37.5		120.6	10.4					95.8		52.7
Queue Delay		40.8		0.0	0.2					0.0		6.1
Total Delay		78.3		120.6	10.6					95.8		58.8
LOS		E		F	B					F		E
Approach Delay		78.3			29.9							
Approach LOS		E			C							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 131 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 63.8
 Intersection LOS: E
 Intersection Capacity Utilization 104.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	579	2480	0	0	1427	855	295	0	436	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						574			73			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	609	2611	0	0	1502	900	311	0	459	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	609	2611	0	0	1502	900	311	0	459	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2032 NBA
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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2281	635	26	2282	0	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Frt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		251				72
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2401	668	27	2402	0	346
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2401	668	27	2402	0	346
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2032 NBA
6/19/2015

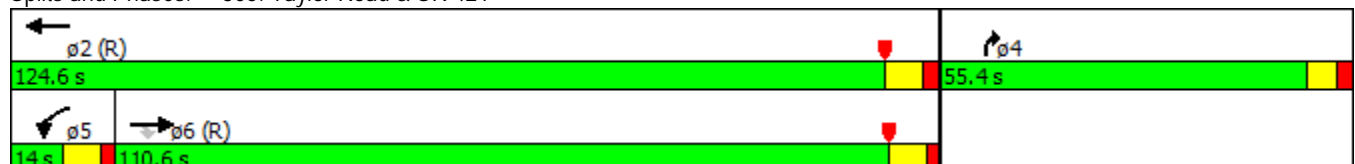


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	110.6	110.6	14.0	124.6		55.4
Total Split (%)	61.4%	61.4%	7.8%	69.2%		30.8%
Maximum Green (s)	103.6	103.6	7.0	117.1		48.9
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	117.3	117.3	7.4	128.7		37.3
Actuated g/C Ratio	0.65	0.65	0.04	0.72		0.21
v/c Ratio	0.72	0.60	0.38	0.66		0.89
Control Delay	15.0	6.8	91.3	13.0		78.1
Queue Delay	0.3	0.5	0.0	0.0		0.0
Total Delay	15.3	7.3	91.3	13.0		78.1
LOS	B	A	F	B		E
Approach Delay	13.6			13.9		
Approach LOS	B			B		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 139 (77%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 17.5
 Intersection LOS: B
 Intersection Capacity Utilization 75.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↗		↖	↕↕↗		↖↗	↕	↖	↖	↕↗	
Volume (vph)	167	2198	146	173	1461	247	543	63	49	296	33	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.991			0.978				0.850		0.876	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5040	0	1770	4973	0	3433	1863	1583	1770	3100	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5040	0	1770	4973	0	3433	1863	1583	1770	3100	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			21				164		155	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	176	2314	154	182	1538	260	572	66	52	312	35	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	2468	0	182	1798	0	572	66	52	312	204	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2032 NBA
6/19/2015

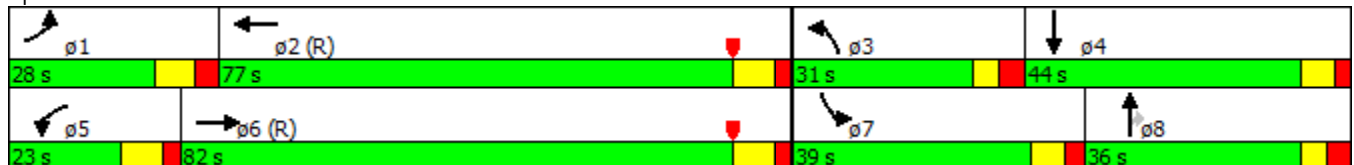


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	28.0	82.0		23.0	77.0		31.0	36.0	36.0	39.0	44.0	
Total Split (%)	15.6%	45.6%		12.8%	42.8%		17.2%	20.0%	20.0%	21.7%	24.4%	
Maximum Green (s)	19.5	74.0		15.0	69.0		24.0	29.0	29.0	32.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	25.1	75.3		30.4	80.1		24.0	12.3	12.3	32.0	20.3	
Actuated g/C Ratio	0.14	0.42		0.17	0.44		0.13	0.07	0.07	0.18	0.11	
v/c Ratio	0.72	1.17		0.61	0.81		1.25	0.52	0.20	0.99	0.42	
Control Delay	97.7	118.3		59.6	49.5		189.5	95.0	1.7	120.9	22.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	97.7	118.3		59.6	49.5		189.5	95.0	1.7	120.9	22.1	
LOS	F	F		E	D		F	F	A	F	C	
Approach Delay		116.9			50.4			166.3			81.8	
Approach LOS		F			D			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 117 (65%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay: 97.0
 Intersection LOS: F
 Intersection Capacity Utilization 105.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2032 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	592	1698	171	76	1165	299	336	455	88	225	215	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.986				0.850		0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5014	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5014	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				250		12				315
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	623	1787	180	80	1226	315	354	479	93	237	226	315
Shared Lane Traffic (%)												
Lane Group Flow (vph)	623	1967	0	80	1226	315	354	572	0	237	226	315
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2032 NBA
6/19/2015

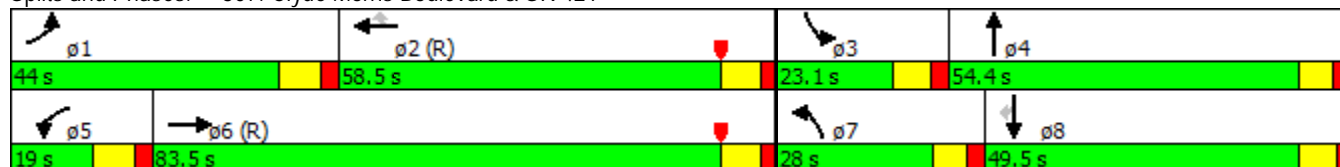


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	44.0	83.5		19.0	58.5	58.5	28.0	54.4		23.1	49.5	49.5
Total Split (%)	24.4%	46.4%		10.6%	32.5%	32.5%	15.6%	30.2%		12.8%	27.5%	27.5%
Maximum Green (s)	36.0	76.0		11.0	51.0	51.0	21.0	46.9		15.6	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	38.3	84.1		13.8	59.6	59.6	20.6	36.4		15.2	31.5	31.5
Actuated g/C Ratio	0.21	0.47		0.08	0.33	0.33	0.11	0.20		0.08	0.18	0.18
v/c Ratio	0.85	0.84		0.59	0.73	0.46	0.90	0.81		0.82	0.70	0.59
Control Delay	40.4	41.2		98.1	57.5	13.5	104.0	76.1		102.8	80.7	10.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	40.4	41.2		98.1	57.5	13.5	104.0	76.1		102.8	80.7	10.2
LOS	D	D		F	E	B	F	E		F	F	B
Approach Delay		41.0			50.9			86.8			58.9	
Approach LOS		D			D			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 20 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 53.3
 Intersection LOS: D
 Intersection Capacity Utilization 88.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2042 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	720	93	598	1473	95	162	480	551	72	362	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3473	0	1752	1845	1568	1752	1806	0
Flt Permitted	0.950			0.950			0.095			0.114		
Satd. Flow (perm)	1752	3505	1568	3400	3473	0	175	1845	1568	210	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182		6				390			5
Link Speed (mph)		65			65			30				30
Link Distance (ft)		2043			14703			1198				1442
Travel Time (s)		21.4			154.2			27.2				32.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	758	98	629	1551	100	171	505	580	76	381	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	758	98	629	1651	0	171	505	580	76	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1		2
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		3	8	8	7	4	

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2042 NBA
6/19/2015

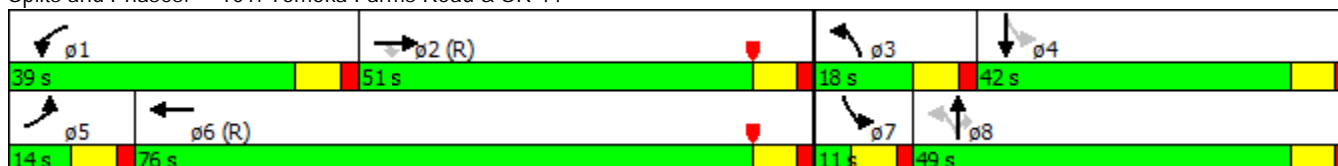


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		4.0	15.0	15.0	4.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		11.0	23.0	23.0	11.0	23.0	
Total Split (s)	14.0	51.0	51.0	39.0	76.0		18.0	49.0	49.0	11.0	42.0	
Total Split (%)	9.3%	34.0%	34.0%	26.0%	50.7%		12.0%	32.7%	32.7%	7.3%	28.0%	
Maximum Green (s)	7.0	44.0	44.0	32.0	69.0		11.0	42.0	42.0	4.0	35.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	7.0	45.3	45.3	30.7	69.0		53.0	42.0	42.0	39.0	35.0	
Actuated g/C Ratio	0.05	0.30	0.30	0.20	0.46		0.35	0.28	0.28	0.26	0.23	
v/c Ratio	0.89	0.72	0.16	0.91	1.03		0.97	0.98	0.81	0.80	1.04	
Control Delay	141.8	51.4	0.6	75.6	70.5		97.0	87.7	25.6	89.2	109.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	141.8	51.4	0.6	75.6	70.5		97.0	87.7	25.6	89.2	109.6	
LOS	F	D	A	E	E		F	F	C	F	F	
Approach Delay		53.1			71.9			60.3			106.7	
Approach LOS		D			E			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 69.1
 Intersection LOS: E
 Intersection Capacity Utilization 102.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: Williamson Blvd/Williamson Boulevard & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	89	1135	108	576	1892	570	292	427	450	317	129	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		300	515		375	250		250	250		180
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			258			437			83			152
Link Speed (mph)		65			65			30				35
Link Distance (ft)		8741			1490			520				805
Travel Time (s)		91.7			15.6			11.8				15.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	94	1195	114	606	1992	600	307	449	474	334	136	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	1195	114	606	1992	600	307	449	474	334	136	71
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28			28			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4	5	3	8	1
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	5	3	8	1

Lanes, Volumes, Timings
 103: Williamson Blvd/Williamson Boulevard & SR 44

2042 NBA
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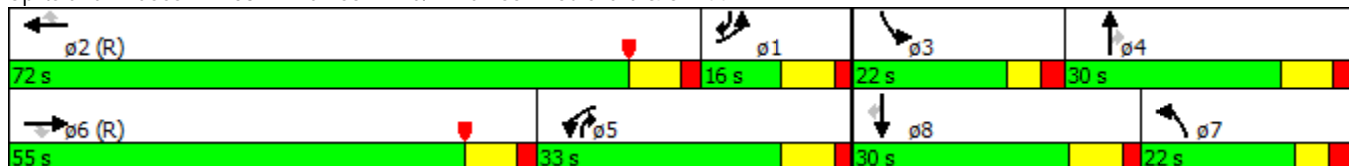


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	5.0	7.0	7.0	5.0
Minimum Split (s)	12.5	23.5	23.5	12.5	36.5	36.5	11.1	36.5	12.5	13.1	46.5	12.5
Total Split (s)	16.0	55.0	55.0	33.0	72.0	72.0	22.0	30.0	33.0	22.0	30.0	16.0
Total Split (%)	11.4%	39.3%	39.3%	23.6%	51.4%	51.4%	15.7%	21.4%	23.6%	15.7%	21.4%	11.4%
Maximum Green (s)	8.5	47.5	47.5	25.5	64.5	64.5	15.9	22.5	25.5	15.9	22.5	8.5
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.0	2.0	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	6.1	7.5	7.5	6.1	7.5	7.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0						7.0
Flash Dont Walk (s)					22.0	22.0						31.0
Pedestrian Calls (#/hr)					0	0						0
Act Effct Green (s)	8.5	47.5	47.5	25.5	64.5	64.5	22.8	22.7	48.2	15.7	15.6	31.6
Actuated g/C Ratio	0.06	0.34	0.34	0.18	0.46	0.46	0.16	0.16	0.34	0.11	0.11	0.23
v/c Ratio	0.89	1.01	0.16	0.98	1.23	0.63	0.55	1.51	0.80	0.87	0.66	0.15
Control Delay	117.3	65.2	0.4	55.8	137.7	7.1	59.3	283.1	31.7	84.4	74.7	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.3	65.2	0.4	55.8	137.7	7.1	59.3	283.1	31.7	84.4	74.7	0.7
LOS	F	E	A	E	F	A	E	F	C	F	E	A
Approach Delay		63.4			97.7			130.4			71.0	
Approach LOS		E			F			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 33 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.51
 Intersection Signal Delay: 94.2
 Intersection LOS: F
 Intersection Capacity Utilization 112.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 103: Williamson Blvd/Williamson Boulevard & SR 44



Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑							↑
Volume (vph)	0	1368	534	236	2489	0	0	0	0	0	0	549
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	255		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		1
Taper Length (ft)	0			150			0			0		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected				0.950								
Satd. Flow (prot)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Flt Permitted				0.950								
Satd. Flow (perm)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			496									86
Link Speed (mph)		65			65			35			35	
Link Distance (ft)		1490			470			569			611	
Travel Time (s)		15.6			4.9			11.1			11.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1440	562	248	2620	0	0	0	0	0	0	578
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1440	562	248	2620	0	0	0	0	0	0	578
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		38			30			0			0	
Link Offset(ft)		0			0			-60			30	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2							1
Detector Template		Thru	Right	Left	Thru							Right
Leading Detector (ft)		100	20	20	100							20
Trailing Detector (ft)		0	0	0	0							0
Detector 1 Position(ft)		0	0	0	0							0
Detector 1 Size(ft)		6	20	20	6							20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex							Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0							0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Detector Phase		2	2	1	6							4

Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

2042 NBA
 6/19/2015

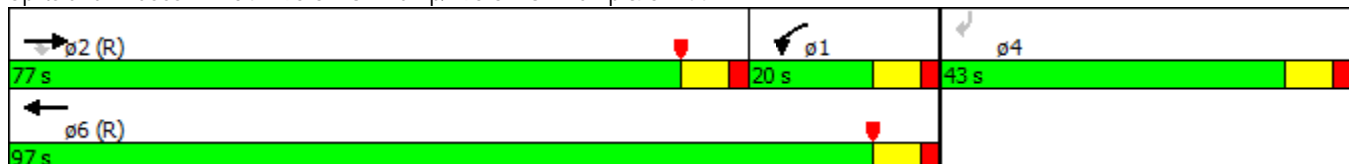


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0							4.0
Minimum Split (s)		23.0	23.0	11.0	23.0							23.0
Total Split (s)		77.0	77.0	20.0	97.0							43.0
Total Split (%)		55.0%	55.0%	14.3%	69.3%							30.7%
Maximum Green (s)		70.0	70.0	13.0	90.0							36.0
Yellow Time (s)		5.0	5.0	5.0	5.0							5.0
All-Red Time (s)		2.0	2.0	2.0	2.0							2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0							7.0
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Recall Mode		C-Max	C-Max	None	C-Max							None
Walk Time (s)		5.0	5.0		5.0							5.0
Flash Dont Walk (s)		11.0	11.0		11.0							11.0
Pedestrian Calls (#/hr)		0	0		0							0
Act Effect Green (s)		70.0	70.0	13.0	90.0							36.0
Actuated g/C Ratio		0.50	0.50	0.09	0.64							0.26
v/c Ratio		0.82	0.54	0.79	1.16							1.22
Control Delay		16.9	2.1	49.3	88.2							154.0
Queue Delay		0.0	0.0	0.0	0.1							0.0
Total Delay		16.9	2.1	49.3	88.3							154.0
LOS		B	A	D	F							F
Approach Delay		12.7			84.9							
Approach LOS		B			F							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 48 (34%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 65.7
 Intersection LOS: E
 Intersection Capacity Utilization 114.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44



Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑	↗	↖↖		↗			
Volume (vph)	378	1667	0	0	1772	952	953	0	105	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	10	12	12	12	12	12
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	2		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3400	5036	0	0	3505	1568	3173	0	1568	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3400	5036	0	0	3505	1568	3173	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						624			90			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			990			678				629
Travel Time (s)		5.5			12.3			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	398	1755	0	0	1865	1002	1003	0	111	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	398	1755	0	0	1865	1002	1003	0	111	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			20				20
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	*1.15	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases						2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2042 NBA
 6/19/2015

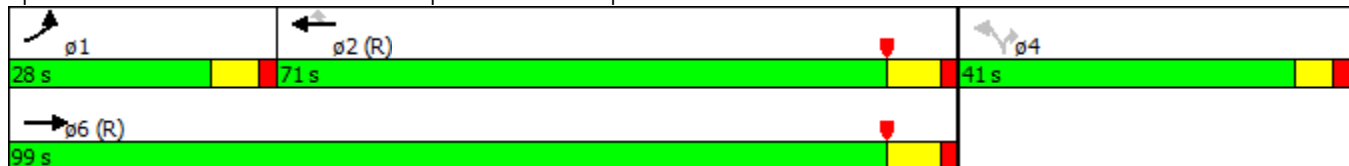


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4			4		
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0			6.0		
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1			22.1		
Total Split (s)	28.0	99.0			71.0	71.0	41.0			41.0		
Total Split (%)	20.0%	70.7%			50.7%	50.7%	29.3%			29.3%		
Maximum Green (s)	21.0	91.5			63.5	63.5	34.9			34.9		
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1			4.1		
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0			2.0		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1			6.1		
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0			4.0		
Recall Mode	Max	C-Max			C-Max	C-Max	None			None		
Act Effect Green (s)	21.0	91.5			63.5	63.5	34.9			34.9		
Actuated g/C Ratio	0.15	0.65			0.45	0.45	0.25			0.25		
v/c Ratio	0.78	0.53			1.17	0.95	1.27			0.24		
Control Delay	63.6	20.6			99.4	13.8	173.9			13.1		
Queue Delay	0.0	0.0			0.1	0.0	4.0			0.0		
Total Delay	63.6	20.6			99.4	13.8	177.9			13.1		
LOS	E	C			F	B	F			B		
Approach Delay		28.5			69.5							
Approach LOS		C			E							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 16 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.27
 Intersection Signal Delay: 71.8
 Intersection LOS: E
 Intersection Capacity Utilization 102.4%
 ICU Level of Service G
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2042 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Volume (vph)	290	1482	2264	140	119	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.046				0.950	
Satd. Flow (perm)	85	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				63		181
Link Speed (mph)		55	55		45	
Link Distance (ft)		1347	522		572	
Travel Time (s)		16.7	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	305	1560	2383	147	125	484
Shared Lane Traffic (%)						
Lane Group Flow (vph)	305	1560	2383	147	125	484
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2042 NBA
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	23.0	110.0	87.0	87.0	30.0	30.0
Total Split (%)	16.4%	78.6%	62.1%	62.1%	21.4%	21.4%
Maximum Green (s)	15.5	102.5	79.5	79.5	23.3	23.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	102.5	102.5	79.5	79.5	23.3	23.3
Actuated g/C Ratio	0.73	0.73	0.57	0.57	0.17	0.17
v/c Ratio	1.24	0.61	1.20	0.16	0.43	1.18
Control Delay	167.6	10.0	123.4	8.5	57.6	133.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.6	10.0	123.4	8.5	57.6	133.6
LOS	F	A	F	A	E	F
Approach Delay	35.8		116.7		118.0	
Approach LOS	D		F		F	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 127 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.24
 Intersection Signal Delay: 86.7
 Intersection LOS: F
 Intersection Capacity Utilization 103.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2042 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	358	294	43	37	372	321	62	170	43	299	161	328
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	2		0	1		0	1		1	2		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00
Frt		0.981			0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1827	0	1770	1734	0	1770	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.549			0.645			0.950		
Satd. Flow (perm)	3433	1827	0	1023	1734	0	1201	1863	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			41				210			345
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	377	309	45	39	392	338	65	179	45	315	169	345
Shared Lane Traffic (%)												
Lane Group Flow (vph)	377	354	0	39	730	0	65	179	45	315	169	345
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			16				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		pm+pt	NA		pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases				6			8		8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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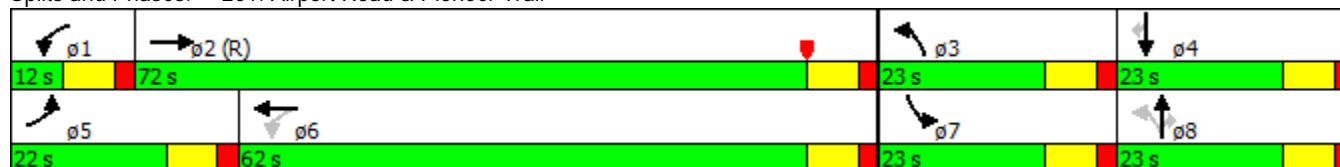


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	22.0	72.0		12.0	62.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	16.9%	55.4%		9.2%	47.7%		17.7%	17.7%	17.7%	17.7%	17.7%	17.7%
Maximum Green (s)	15.0	65.0		5.0	55.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	15.0	67.4		60.0	55.0		32.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.12	0.52		0.46	0.42		0.25	0.12	0.12	0.12	0.12	0.12
v/c Ratio	0.95	0.37		0.08	0.96		0.18	0.78	0.12	0.75	0.39	0.69
Control Delay	91.6	20.3		9.2	61.3		34.7	78.6	0.7	66.8	55.4	13.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.6	20.3		9.2	61.3		34.7	78.6	0.7	66.8	55.4	13.4
LOS	F	C		A	E		C	E	A	E	E	B
Approach Delay		57.1			58.7			56.6			42.2	
Approach LOS		E			E			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 52.8
 Intersection LOS: D
 Intersection Capacity Utilization 90.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail

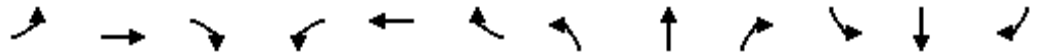


Lanes, Volumes, Timings

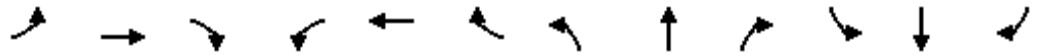
2042 NBA

202: Williamson Blvd/Williamson Boulevard & Pioneer Trail

6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	213	389	66	151	449	494	111	387	226	318	172	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	250		250	250		250
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3461	0	1770	1863	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.155			0.414			0.643			0.950		
Satd. Flow (perm)	289	3461	0	771	1863	1583	1198	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				113			151			163
Link Speed (mph)		45			45			30				35
Link Distance (ft)		609			2836			511				1084
Travel Time (s)		9.2			43.0			11.6				21.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	224	409	69	159	473	520	117	407	238	335	181	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	478	0	159	473	520	117	407	238	335	181	163
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7	3	8	1	7	4	5
Permitted Phases	2			6		6	8		8			4

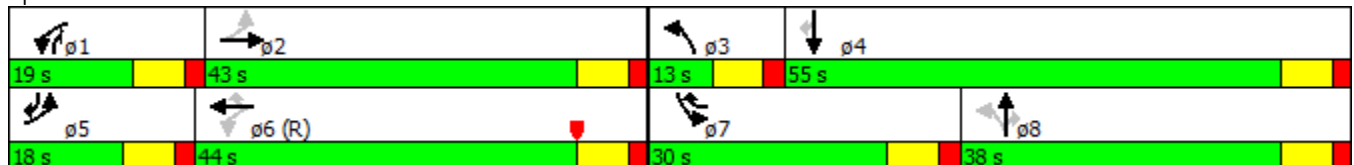


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0	12.0	12.0	23.0	12.0	12.0	23.0	12.0
Total Split (s)	18.0	43.0		19.0	44.0	30.0	13.0	38.0	19.0	30.0	55.0	18.0
Total Split (%)	13.8%	33.1%		14.6%	33.8%	23.1%	10.0%	29.2%	14.6%	23.1%	42.3%	13.8%
Maximum Green (s)	11.0	36.0		12.0	37.0	23.0	6.0	31.0	12.0	23.0	48.0	11.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	53.6	40.8		49.4	38.5	64.0	37.7	31.7	49.7	18.5	44.2	64.5
Actuated g/C Ratio	0.41	0.31		0.38	0.30	0.49	0.29	0.24	0.38	0.14	0.34	0.50
v/c Ratio	0.83	0.44		0.42	0.86	0.62	0.31	0.90	0.34	0.69	0.29	0.19
Control Delay	59.0	26.6		26.7	60.1	22.0	26.6	70.6	11.3	60.1	31.7	2.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	26.6		26.7	60.1	22.0	26.6	70.6	11.3	60.1	31.7	2.9
LOS	E	C		C	E	C	C	E	B	E	C	A
Approach Delay		37.0			38.3			45.3			38.8	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 55 (42%), Referenced to phase 6:WBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 39.7
 Intersection LOS: D
 Intersection Capacity Utilization 88.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 202: Williamson Blvd/Williamson Boulevard & Pioneer Trail



Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

2042 NBA
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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	30	378	716	25	272	661
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	300		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1853	0	1770	1863
Flt Permitted	0.950				0.236	
Satd. Flow (perm)	1770	1583	1853	0	440	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		384	2			
Link Speed (mph)	45		35			45
Link Distance (ft)	1187		457			524
Travel Time (s)	18.0		8.9			7.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	32	398	754	26	286	696
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	398	780	0	286	696
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	

Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

2042 NBA
6/19/2015

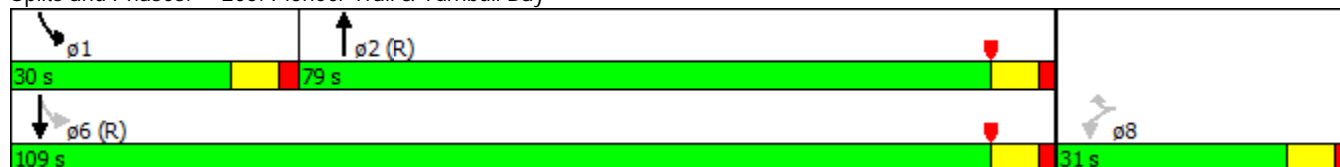


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	23.0	23.0	23.0		11.0	23.0
Total Split (s)	31.0	31.0	79.0		30.0	109.0
Total Split (%)	22.1%	22.1%	56.4%		21.4%	77.9%
Maximum Green (s)	24.0	24.0	72.0		23.0	102.0
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0	7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effect Green (s)	11.1	11.1	92.8		114.9	114.9
Actuated g/C Ratio	0.08	0.08	0.66		0.82	0.82
v/c Ratio	0.23	0.83	0.63		0.57	0.46
Control Delay	61.2	22.0	19.6		7.9	5.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	61.2	22.0	19.6		7.9	5.4
LOS	E	C	B		A	A
Approach Delay	25.0		19.6			6.1
Approach LOS	C		B			A

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 14.6
 Intersection LOS: B
 Intersection Capacity Utilization 75.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 205: Pioneer Trail & Turnbull Bay



Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2042 NBA
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	117	477	33	96	554	56	55	56	80	10	163	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.989			0.944			0.959	
Flt Protected		0.991			0.993			0.986			0.998	
Satd. Flow (prot)	0	1833	0	0	1829	0	0	1734	0	0	1783	0
Flt Permitted		0.753			0.833			0.589			0.983	
Satd. Flow (perm)	0	1393	0	0	1535	0	0	1036	0	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			7			33			20	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	123	502	35	101	583	59	58	59	84	11	172	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	660	0	0	743	0	0	201	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2042 NBA
 6/19/2015

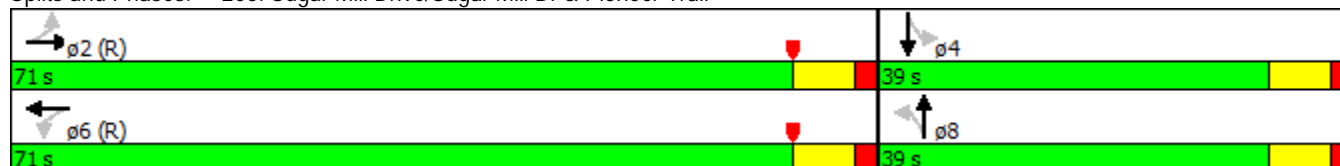


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	71.0	71.0		71.0	71.0		39.0	39.0		39.0	39.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Maximum Green (s)	64.0	64.0		64.0	64.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		75.0			75.0			21.0			21.0	
Actuated g/C Ratio		0.68			0.68			0.19			0.19	
v/c Ratio		0.69			0.71			0.90			0.75	
Control Delay		16.7			16.7			74.2			51.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.7			16.7			74.2			51.7	
LOS		B			B			E			D	
Approach Delay		16.7			16.7			74.2			51.7	
Approach LOS		B			B			E			D	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	27.8
Intersection LOS:	C
Intersection Capacity Utilization:	93.9%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	287	10	3	397	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	302	11	3	418	12	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	302
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1259
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1259
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	434	-	-	1259	-
HCM Lane V/C Ratio	0.034	-	-	0.003	-
HCM Control Delay (s)	13.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 14.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	257	73	225	276	90	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	271	77	237	291	95	242

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	347
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1212
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1212
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	46.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	402	-	-	1212	-
HCM Lane V/C Ratio	0.838	-	-	0.195	-
HCM Control Delay (s)	46.1	-	-	8.7	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	7.9	-	-	0.7	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2042 NBA
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	938	14	72	628	139	24	51	52	202	15	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.875
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1630	0
Flt Permitted	0.950			0.950			0.695			0.441		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1295	1863	1583	821	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167			79
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	153	987	15	76	661	146	25	54	55	213	16	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
 301: Summertrees Road & SR 421

2042 NBA
 6/19/2015

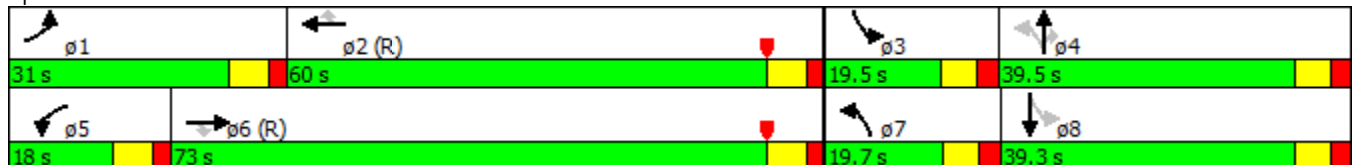


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Maximum Green (s)	24.5	66.5	66.5	11.5	53.5	53.5	13.2	33.0	33.0	13.0	32.8	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	18.2	91.6	91.6	11.8	85.2	85.2	16.3	10.9	10.9	26.1	18.3	
Actuated g/C Ratio	0.12	0.61	0.61	0.08	0.57	0.57	0.11	0.07	0.07	0.17	0.12	
v/c Ratio	0.71	0.87	0.01	0.55	0.63	0.15	0.15	0.40	0.20	0.95	0.35	
Control Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
LOS	F	D	A	F	C	A	D	E	A	F	C	
Approach Delay		41.4			27.8			40.3			79.3	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 41.2
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2042 NBA
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	331	766	140	632	539	1106	157	1607	1091	1113	746	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3454	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				76			124			14
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	348	806	147	665	567	1164	165	1692	1148	1172	785	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	953	0	665	567	1164	165	1692	1148	1172	938	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2042 NBA
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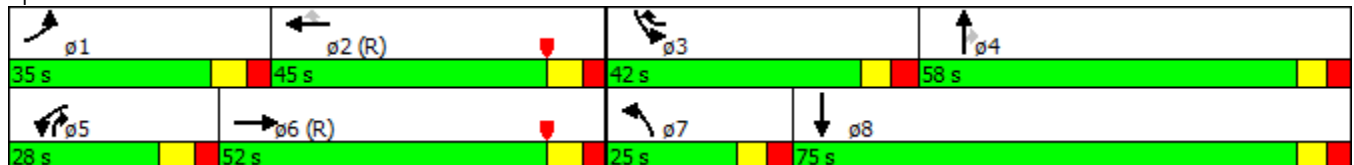


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	35.0	52.0		28.0	45.0	42.0	25.0	58.0	28.0	42.0		75.0
Total Split (%)	19.4%	28.9%		15.6%	25.0%	23.3%	13.9%	32.2%	15.6%	23.3%		41.7%
Maximum Green (s)	27.0	44.0		20.0	37.0	34.0	17.5	50.5	20.0	34.0		67.5
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effct Green (s)	23.0	44.0		20.0	41.0	83.0	13.9	50.5	78.0	34.0		71.1
Actuated g/C Ratio	0.13	0.24		0.11	0.23	0.46	0.08	0.28	0.43	0.19		0.40
v/c Ratio	0.79	0.78		1.75	0.70	1.51	0.62	1.71	0.90	1.81		0.68
Control Delay	89.5	67.2		384.6	76.9	262.0	90.7	358.7	52.4	407.1		47.9
Queue Delay	0.0	52.7		0.0	0.0	0.0	0.0	0.0	3.7	0.0		0.0
Total Delay	89.5	119.9		384.6	76.9	262.0	90.7	358.7	56.2	407.1		47.9
LOS	F	F		F	E	F	F	F	E	F		D
Approach Delay		111.8			252.3			228.4				247.4
Approach LOS		F			F			F				F

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 74 (41%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 222.2
 Intersection LOS: F
 Intersection Capacity Utilization 141.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↗↘	↑↑					↗↘		↗↘
Volume (vph)	0	2630	340	277	1732	0	0	0	0	831	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.983										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	4999	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	4999	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2768	358	292	1823	0	0	0	0	875	0	574
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3126	0	292	1823	0	0	0	0	875	0	574
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2042 NBA
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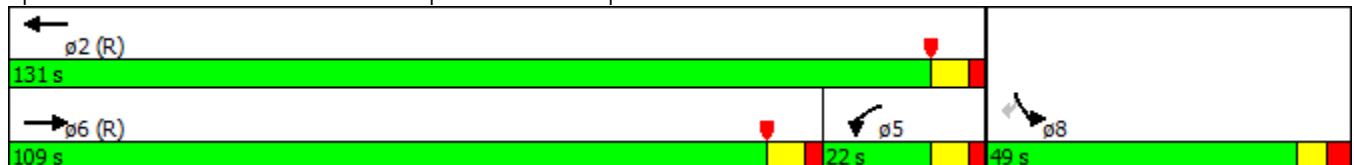


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		109.0		22.0	131.0					49.0		49.0
Total Split (%)		60.6%		12.2%	72.8%					27.2%		27.2%
Maximum Green (s)		101.5		14.5	123.5					41.5		41.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		101.5		14.5	123.5					41.5		41.5
Actuated g/C Ratio		0.56		0.08	0.69					0.23		0.23
v/c Ratio		1.11		1.06	0.75					1.11		0.82
Control Delay		82.5		114.9	10.9					126.5		68.0
Queue Delay		0.4		0.0	1.1					1.0		1.5
Total Delay		82.9		114.9	12.0					127.5		69.5
LOS		F		F	B					F		E
Approach Delay		82.9			26.2							
Approach LOS		F			C							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 119 (66%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 69.7
 Intersection LOS: E
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	728	2733	0	0	1611	887	398	0	524	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						559			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	766	2877	0	0	1696	934	419	0	552	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2042 NBA
 6/19/2015

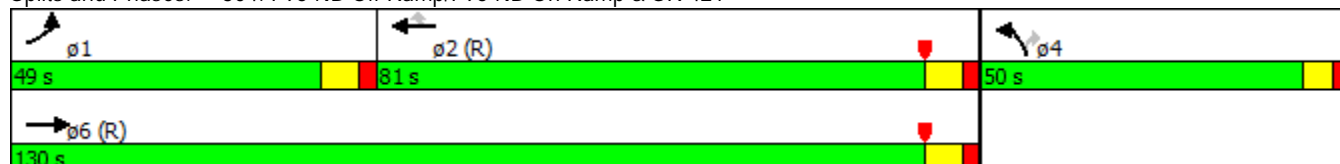


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	49.0	130.0			81.0	81.0	50.0		50.0			
Total Split (%)	27.2%	72.2%			45.0%	45.0%	27.8%		27.8%			
Maximum Green (s)	41.5	122.5			73.5	73.5	43.0		43.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	41.3	122.5			73.7	73.7	43.0		43.0			
Actuated g/C Ratio	0.23	0.68			0.41	0.41	0.24		0.24			
v/c Ratio	0.97	0.83			0.82	0.96	0.99		0.77			
Control Delay	86.0	11.5			36.6	28.3	108.6		63.1			
Queue Delay	17.8	32.4			1.4	43.2	0.0		0.2			
Total Delay	103.9	43.8			38.0	71.5	108.6		63.2			
LOS	F	D			D	E	F		E			
Approach Delay		56.4			49.9							
Approach LOS		E			D							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 109 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 57.6
 Intersection LOS: E
 Intersection Capacity Utilization 116.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

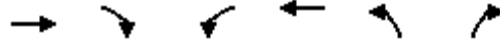
2042 NBA
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2564	693	28	2498	0	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		251				51
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2699	729	29	2629	0	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2699	729	29	2629	0	388
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2042 NBA
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	113.0	113.0	12.0	125.0		55.0
Total Split (%)	62.8%	62.8%	6.7%	69.4%		30.6%
Maximum Green (s)	106.0	106.0	5.0	117.5		48.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	112.9	112.9	6.3	123.2		42.8
Actuated g/C Ratio	0.63	0.63	0.04	0.68		0.24
v/c Ratio	0.85	0.67	0.47	0.76		0.92
Control Delay	25.8	11.5	83.8	16.1		85.1
Queue Delay	8.7	1.5	0.0	0.0		0.0
Total Delay	34.4	13.0	83.8	16.2		85.1
LOS	C	B	F	B		F
Approach Delay	29.9			16.9		
Approach LOS	C			B		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 128 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 27.8
 Intersection LOS: C
 Intersection Capacity Utilization 83.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2042 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	184	2437	170	204	1584	282	611	71	55	333	35	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.990			0.977				0.850		0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5034	0	1770	4968	0	3433	1863	1583	1770	3093	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5034	0	1770	4968	0	3433	1863	1583	1770	3093	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			23				121			145
Link Speed (mph)		50			50			40				40
Link Distance (ft)		1605			1766			596				539
Travel Time (s)		21.9			24.1			10.2				9.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	194	2565	179	215	1667	297	643	75	58	351	37	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	2744	0	215	1964	0	643	75	58	351	229	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
 306: Yorktowne Boulevard & SR 421

2042 NBA
 6/19/2015

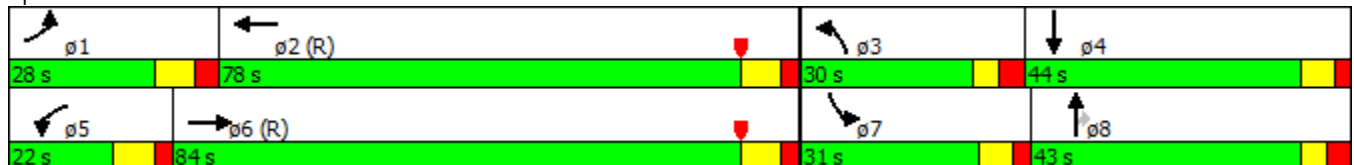


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	28.0	84.0		22.0	78.0		30.0	43.0	43.0	31.0	44.0	
Total Split (%)	15.6%	46.7%		12.2%	43.3%		16.7%	23.9%	23.9%	17.2%	24.4%	
Maximum Green (s)	19.5	76.0		14.0	70.0		23.0	36.0	36.0	24.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	29.0	76.6		36.4	83.4		23.0	13.0	13.0	24.0	14.0	
Actuated g/C Ratio	0.16	0.43		0.20	0.46		0.13	0.07	0.07	0.13	0.08	
v/c Ratio	0.68	1.28		0.60	0.85		1.47	0.56	0.26	1.49	0.61	
Control Delay	95.4	160.0		51.0	49.3		272.2	95.8	2.7	289.0	36.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	95.4	160.0		51.0	49.3		272.2	95.8	2.7	289.0	36.1	
LOS	F	F		D	D		F	F	A	F	D	
Approach Delay		155.7			49.5			235.0			189.2	
Approach LOS		F			D			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 120 (67%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 132.5
 Intersection LOS: F
 Intersection Capacity Utilization 114.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2042 NBA
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑		↖	↑↑↑	↖	↖↖	↑↑		↖↖	↑	↖
Volume (vph)	662	1887	193	86	1279	329	376	471	105	248	221	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.986				0.850		0.973				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5014	0	1770	5085	1583	3433	3444	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5014	0	1770	5085	1583	3433	3444	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				237		14				324
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	697	1986	203	91	1346	346	396	496	111	261	233	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	697	2189	0	91	1346	346	396	607	0	261	233	353
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2042 NBA
6/19/2015

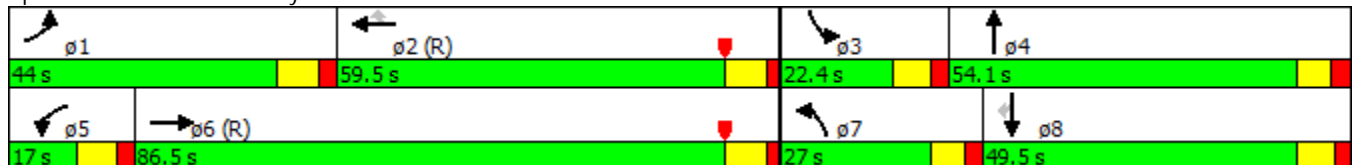


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	44.0	86.5		17.0	59.5	59.5	27.0	54.1		22.4	49.5	49.5
Total Split (%)	24.4%	48.1%		9.4%	33.1%	33.1%	15.0%	30.1%		12.4%	27.5%	27.5%
Maximum Green (s)	36.0	79.0		9.0	52.0	52.0	20.0	46.6		14.9	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	42.2	81.1		14.8	53.8	53.8	20.0	38.7		14.9	34.1	34.1
Actuated g/C Ratio	0.23	0.45		0.08	0.30	0.30	0.11	0.22		0.08	0.19	0.19
v/c Ratio	0.87	0.97		0.63	0.89	0.54	1.04	0.81		0.92	0.66	0.63
Control Delay	41.5	43.5		96.3	68.4	19.5	131.1	74.3		116.4	76.4	13.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	41.5	43.5		96.3	68.4	19.5	131.1	74.3		116.4	76.4	13.3
LOS	D	D		F	E	B	F	E		F	E	B
Approach Delay		43.0			60.3			96.7			62.4	
Approach LOS		D			E			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 17 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 58.6
 Intersection LOS: E
 Intersection Capacity Utilization 94.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	868	59	314	527	45	59	194	352	43	321	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.988				0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	3463	0	1752	1845	1568	1752	1813	0
Flt Permitted	0.950			0.950			0.213			0.539		
Satd. Flow (perm)	1752	3505	1568	1752	3463	0	393	1845	1568	994	1813	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		11				371		6	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	914	62	331	555	47	62	204	371	45	338	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	914	62	331	602	0	62	204	371	45	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2022 NBP
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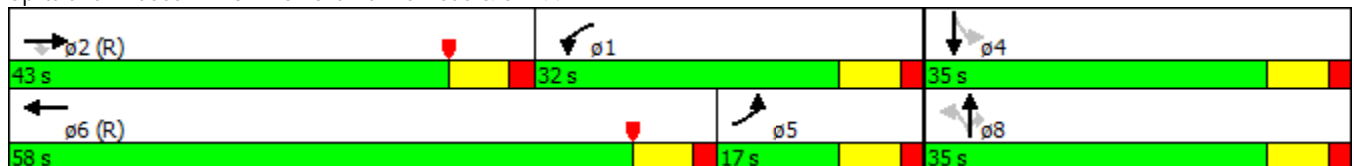


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	17.0	43.0	43.0	32.0	58.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	15.5%	39.1%	39.1%	29.1%	52.7%		31.8%	31.8%	31.8%	31.8%	31.8%	
Maximum Green (s)	10.0	36.0	36.0	25.0	51.0		28.0	28.0	28.0	28.0	28.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lead	Lead	Lag	Lead							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effct Green (s)	8.9	39.6	39.6	23.5	56.8		25.9	25.9	25.9	25.9	25.9	
Actuated g/C Ratio	0.08	0.36	0.36	0.21	0.52		0.24	0.24	0.24	0.24	0.24	
v/c Ratio	0.52	0.72	0.09	0.89	0.34		0.67	0.47	0.57	0.19	0.88	
Control Delay	61.5	35.5	0.3	67.5	17.4		72.7	39.5	7.2	34.9	62.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	61.5	35.5	0.3	67.5	17.4		72.7	39.5	7.2	34.9	62.6	
LOS	E	D	A	E	B		E	D	A	C	E	
Approach Delay		35.2			35.2			23.9			59.6	
Approach LOS		D			D			C			E	

Intersection Summary

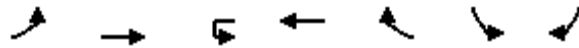
Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 36.3
 Intersection LOS: D
 Intersection Capacity Utilization 96.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44

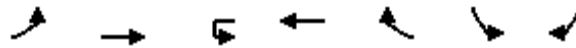


Lanes, Volumes, Timings
103: SR 44 & Williamson Blvd

2022 NBP
6/19/2015



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗	↑↑	↖	↖	↖
Volume (vph)	73	1271	73	865	272	395	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		515		375	250	250
Storage Lanes	1		1		1	1	0
Taper Length (ft)	45		50			50	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Fr _t					0.850		0.850
Fl _t Protected	0.950		0.950			0.950	
Satd. Flow (prot)	1752	3505	1752	3505	1568	1752	1568
Fl _t Permitted	0.234		0.092			0.950	
Satd. Flow (perm)	432	3505	170	3505	1568	1752	1568
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)					286		78
Link Speed (mph)		65		65		30	
Link Distance (ft)		8741		1490		615	
Travel Time (s)		91.7		15.6		14.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	1338	77	911	286	416	78
Shared Lane Traffic (%)							
Lane Group Flow (vph)	77	1338	77	911	286	416	78
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		28		28		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Number of Detectors	1	2	1	2	1	1	1
Detector Template	Left	Thru	Left	Thru	Right	Left	Right
Leading Detector (ft)	20	100	20	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			
Detector 2 Size(ft)		6		6			
Detector 2 Type		Cl+Ex		Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)		0.0		0.0			
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	Perm
Protected Phases	1	6	5	2			
Permitted Phases	6		2		2	4	4
Detector Phase	1	6	5	2	2	4	4



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Switch Phase							
Minimum Initial (s)	5.0	16.0	5.0	16.0	16.0	16.0	16.0
Minimum Split (s)	12.0	23.5	12.0	36.5	36.5	36.5	36.5
Total Split (s)	12.0	65.0	12.0	65.0	65.0	43.0	43.0
Total Split (%)	10.0%	54.2%	10.0%	54.2%	54.2%	35.8%	35.8%
Maximum Green (s)	5.0	57.5	5.0	57.5	57.5	35.5	35.5
Yellow Time (s)	5.0	5.5	5.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.5	7.0	7.5	7.5	7.5	7.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	C-Max	C-Max	Max	Max
Walk Time (s)				7.0	7.0	7.0	7.0
Flash Dont Walk (s)				22.0	22.0	22.0	22.0
Pedestrian Calls (#/hr)				0	0	0	0
Act Effct Green (s)	64.4	59.9	64.4	59.9	59.9	35.5	35.5
Actuated g/C Ratio	0.54	0.50	0.54	0.50	0.50	0.30	0.30
v/c Ratio	0.27	0.77	0.49	0.52	0.31	0.80	0.15
Control Delay	13.6	28.7	26.2	24.5	7.0	52.3	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	28.7	26.2	24.5	7.0	52.3	7.5
LOS	B	C	C	C	A	D	A
Approach Delay		27.9		20.6		45.2	
Approach LOS		C		C		D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 6 (5%), Referenced to phase 2:WBTU and 6:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 27.7
 Intersection LOS: C
 Intersection Capacity Utilization 79.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 103: SR 44 & Williamson Blvd



Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1346	393	135	1034	0	0	0	0	0	0	176
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1417	414	142	1088	0	0	0	0	0	0	185

Major/Minor	Major1	Major2	Minor2						
Conflicting Flow All	1088	0	0	1417	0	0	2081	2790	544
Stage 1	-	-	-	-	-	-	1373	1373	-
Stage 2	-	-	-	-	-	-	708	1417	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	631	-	-	472	-	-	45	18	481
Stage 1	-	-	-	-	-	-	199	210	-
Stage 2	-	-	-	-	-	-	447	200	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	631	-	-	472	-	-	31	0	481
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	0	-
Stage 1	-	-	-	-	-	-	139	0	-
Stage 2	-	-	-	-	-	-	447	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.8	17.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	631	-	-	472	-	-	481
HCM Lane V/C Ratio	-	-	-	0.301	-	-	0.385
HCM Control Delay (s)	0	-	-	15.9	-	-	17.1
HCM Lane LOS	A	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0	-	-	1.3	-	-	1.8

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2022 NBP
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	199	1861	0	0	894	528	275	0	197	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.238						0.950					
Satd. Flow (perm)	439	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						556			105			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	209	1959	0	0	941	556	289	0	207	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1959	0	0	941	556	289	0	207	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2022 NBP
 6/19/2015

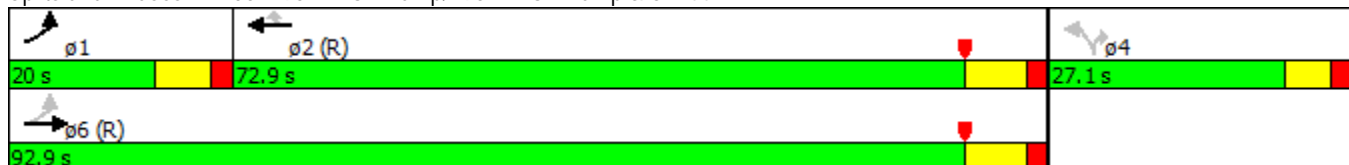


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	20.0	92.9			72.9	72.9	27.1		27.1			
Total Split (%)	16.7%	77.4%			60.8%	60.8%	22.6%		22.6%			
Maximum Green (s)	13.0	85.4			65.4	65.4	21.0		21.0			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	90.2	89.7			73.0	73.0	16.7		16.7			
Actuated g/C Ratio	0.75	0.75			0.61	0.61	0.14		0.14			
v/c Ratio	0.48	0.75			0.44	0.47	0.61		0.67			
Control Delay	6.5	7.1			13.6	3.6	54.0		34.6			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	6.5	7.1			13.6	3.6	54.0		34.6			
LOS	A	A			B	A	D		C			
Approach Delay		7.0			9.9							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 27 (23%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 12.7
 Intersection LOS: B
 Intersection Capacity Utilization 75.0%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2022 NBP
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↙
Volume (vph)	187	1871	1296	69	70	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.134				0.950	
Satd. Flow (perm)	247	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				60		133
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	197	1969	1364	73	74	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	197	1969	1364	73	74	133
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2022 NBP
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	24.0	97.0	73.0	73.0	23.0	23.0
Total Split (%)	20.0%	80.8%	60.8%	60.8%	19.2%	19.2%
Maximum Green (s)	16.5	89.5	65.5	65.5	16.3	16.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	94.4	94.4	70.4	70.4	11.4	11.4
Actuated g/C Ratio	0.79	0.79	0.59	0.59	0.10	0.10
v/c Ratio	0.49	0.71	0.66	0.08	0.45	0.50
Control Delay	11.7	2.2	19.2	4.2	59.1	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	2.2	19.2	4.2	59.1	14.7
LOS	B	A	B	A	E	B
Approach Delay	3.1		18.4	30.6		
Approach LOS	A		B	C		

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 34 (28%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 10.4
 Intersection LOS: B
 Intersection Capacity Utilization 69.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	148	35	19	131	125	20	127	25	128	159	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.927				0.850			0.850
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1770	1809	0	1770	1727	0	0	1850	1583	1770	1863	1583
Flt Permitted	0.396			0.636				0.993		0.950		
Satd. Flow (perm)	738	1809	0	1185	1727	0	0	1850	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			41				227			227
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	175	156	37	20	138	132	21	134	26	135	167	171
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	193	0	20	270	0	0	155	26	135	167	171
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2022 NBP
6/19/2015

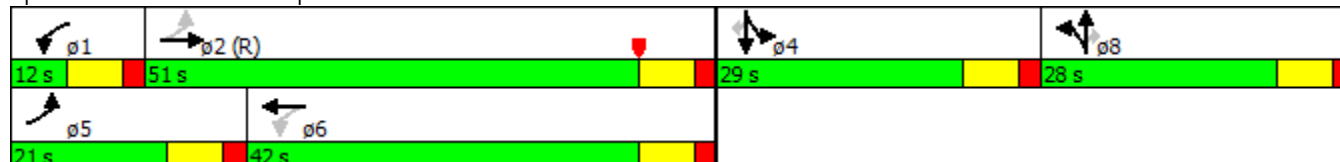


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	21.0	51.0		12.0	42.0		28.0	28.0	28.0	29.0	29.0	29.0
Total Split (%)	17.5%	42.5%		10.0%	35.0%		23.3%	23.3%	23.3%	24.2%	24.2%	24.2%
Maximum Green (s)	14.0	44.0		5.0	35.0		21.0	21.0	21.0	22.0	22.0	22.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	56.0	51.2		42.0	37.0		21.0	21.0	22.0	22.0	22.0	22.0
Actuated g/C Ratio	0.47	0.43		0.35	0.31		0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.39	0.25		0.05	0.48		0.48	0.06	0.42	0.49	0.36	0.36
Control Delay	21.8	23.2		17.9	35.2		50.2	0.2	47.9	49.6	3.8	3.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	23.2		17.9	35.2		50.2	0.2	47.9	49.6	3.8	3.8
LOS	C	C		B	D		D	A	D	D	A	A
Approach Delay		22.5			34.0		43.1				32.5	
Approach LOS		C			C		D				C	

Intersection Summary

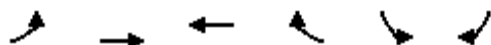
Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 60 (50%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.49
 Intersection Signal Delay: 31.5
 Intersection LOS: C
 Intersection Capacity Utilization 63.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 NBP
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	150	151	133	284	266	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			200	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Fl _t Permitted	0.591				0.950	
Satd. Flow (perm)	1101	1863	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				299		149
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	2836		1084	
Travel Time (s)		9.2	43.0		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	158	159	140	299	280	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	159	140	299	280	149
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 NBP
6/19/2015

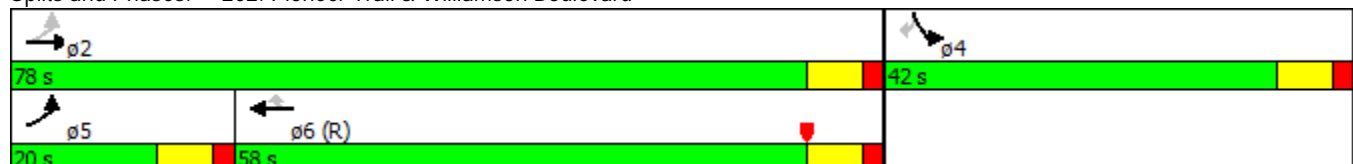


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	78.0	58.0	58.0	42.0	42.0
Total Split (%)	16.7%	65.0%	48.3%	48.3%	35.0%	35.0%
Maximum Green (s)	13.0	71.0	51.0	51.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	71.0	71.0	53.7	53.7	35.0	35.0
Actuated g/C Ratio	0.59	0.59	0.45	0.45	0.29	0.29
v/c Ratio	0.22	0.14	0.17	0.34	0.54	0.26
Control Delay	4.7	4.2	21.0	3.5	40.5	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	4.2	21.0	3.5	40.5	6.3
LOS	A	A	C	A	D	A
Approach Delay		4.5	9.1		28.6	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 14.9
 Intersection LOS: B
 Intersection Capacity Utilization 53.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Intersection

Int Delay, s/veh 3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	25	130	287	26	139	278
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	137	302	27	146	293

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	901	316	0	0	329	0
Stage 1	316	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	309	724	-	-	1231	-
Stage 1	739	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	272	724	-	-	1231	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	491	-	-	-	-	-

Approach	WB	WB	NB	SB
HCM Control Delay, s	13.8		0	2.8
HCM LOS	B			

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	571	1231	-
HCM Lane V/C Ratio	-	-	0.286	0.119	-
HCM Control Delay (s)	-	-	13.8	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.4	-

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	59	202	42	84	219	50	35	83	57	25	91	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.981			0.956			0.955	
Flt Protected		0.990			0.988			0.990			0.993	
Satd. Flow (prot)	0	1809	0	0	1805	0	0	1763	0	0	1766	0
Flt Permitted		0.867			0.843			0.816			0.897	
Satd. Flow (perm)	0	1584	0	0	1540	0	0	1453	0	0	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			14			25			26	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	62	213	44	88	231	53	37	87	60	26	96	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	319	0	0	372	0	0	184	0	0	184	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	63.0	63.0		63.0	63.0		37.0	37.0		37.0	37.0	
Total Split (%)	63.0%	63.0%		63.0%	63.0%		37.0%	37.0%		37.0%	37.0%	
Maximum Green (s)	56.0	56.0		56.0	56.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		69.0			69.0			17.0			17.0	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
v/c Ratio		0.29			0.35			0.69			0.63	
Control Delay		7.0			7.6			46.9			42.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.0			7.6			46.9			42.5	
LOS		A			A			D			D	
Approach Delay		7.0			7.6			46.9			42.5	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 20.3
 Intersection LOS: C
 Intersection Capacity Utilization 54.1%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	157	8	5	150	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	8	5	158	5	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	165
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1413
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1413
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	727	-	-	1413	-
HCM Lane V/C Ratio	0.012	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	116	41	97	119	42	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	43	102	125	44	103

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	165
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1413
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1413
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	732	-	-	1413	-
HCM Lane V/C Ratio	0.201	-	-	0.072	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.2	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	808	22	46	936	51	14	17	24	58	39	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.874
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.229			0.656		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	427	1863	1583	1222	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			164
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	93	851	23	48	985	54	15	18	25	61	41	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	851	23	48	985	54	15	18	25	61	259	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2022 NBP
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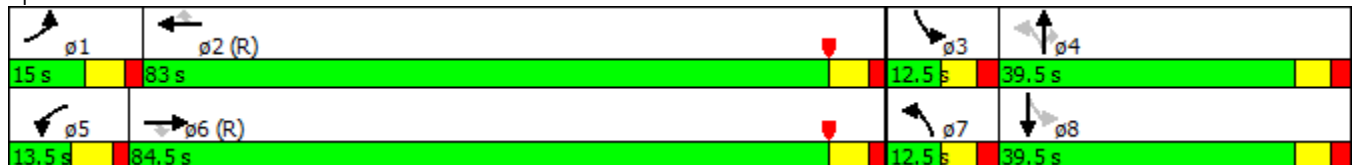


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	15.0	84.5	84.5	13.5	83.0	83.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.0%	56.3%	56.3%	9.0%	55.3%	55.3%	8.3%	26.3%	26.3%	8.3%	26.3%	
Maximum Green (s)	8.5	78.0	78.0	7.0	76.5	76.5	6.0	33.0	33.0	6.0	33.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	14.5	98.5	98.5	9.8	91.1	91.1	18.9	14.9	14.9	22.3	19.9	
Actuated g/C Ratio	0.10	0.66	0.66	0.07	0.61	0.61	0.13	0.10	0.10	0.15	0.13	
v/c Ratio	0.54	0.70	0.02	0.42	0.87	0.05	0.14	0.10	0.09	0.30	0.72	
Control Delay	76.5	24.0	0.0	83.3	24.5	0.2	49.8	58.8	0.7	54.6	34.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.5	24.0	0.0	83.3	24.5	0.2	49.8	58.8	0.7	54.6	34.3	
LOS	E	C	A	F	C	A	D	E	A	D	C	
Approach Delay		28.5			25.9			31.4			38.1	
Approach LOS		C			C			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 107 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 28.7
 Intersection LOS: C
 Intersection Capacity Utilization 86.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2022 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔↔	↕↕	↔	↔↔	↕↕	↔↔	↔↔	↔↔	↕↔
Volume (vph)	50	722	118	762	948	577	100	314	521	725	732	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.979				0.850			0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3468	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				91			149			11
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	53	760	124	802	998	607	105	331	548	763	771	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	884	0	802	998	607	105	331	548	763	888	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3		8
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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6/19/2015

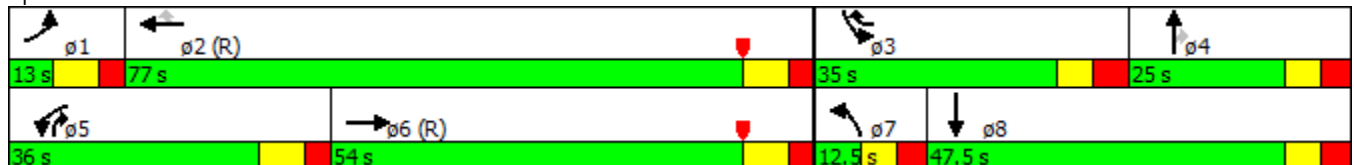


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	13.0	54.0		36.0	77.0	35.0	12.5	25.0	36.0	35.0		47.5
Total Split (%)	8.7%	36.0%		24.0%	51.3%	23.3%	8.3%	16.7%	24.0%	23.3%		31.7%
Maximum Green (s)	5.0	46.0		28.0	69.0	27.0	5.0	17.5	28.0	27.0		40.0
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effct Green (s)	5.1	46.0		28.3	71.9	106.9	5.0	17.2	53.0	27.0		39.7
Actuated g/C Ratio	0.03	0.31		0.19	0.48	0.71	0.03	0.11	0.35	0.18		0.26
v/c Ratio	0.45	0.57		1.24	0.59	0.53	0.92	0.82	0.51	1.24		0.96
Control Delay	86.0	37.6		165.2	19.8	6.1	135.5	81.3	29.0	169.4		74.6
Queue Delay	0.0	0.1		0.0	0.6	1.2	0.0	0.0	0.1	0.0		0.0
Total Delay	86.0	37.7		165.2	20.3	7.3	135.5	81.3	29.1	169.4		74.6
LOS	F	D		F	C	A	F	F	C	F		E
Approach Delay		40.4			65.3			58.0				118.4
Approach LOS		D			E			E				F

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 91 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.24
 Intersection Signal Delay: 74.9
 Intersection LOS: E
 Intersection Capacity Utilization 93.9%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2022 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	1810	158	347	1873	0	0	0	0	672	0	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Flt		0.988										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5024	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	5024	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13										87
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	1905	166	365	1972	0	0	0	0	707	0	436
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2071	0	365	1972	0	0	0	0	707	0	436
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2022 NBP
 6/19/2015

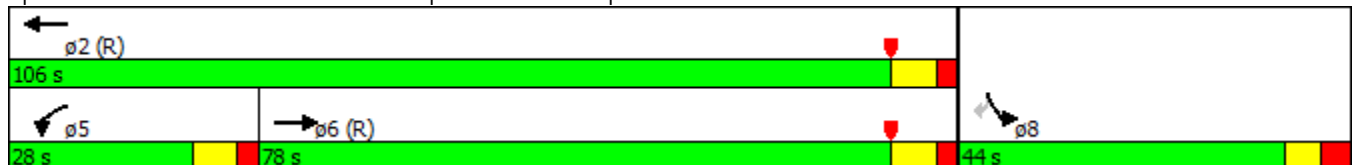


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		78.0		28.0	106.0					44.0		44.0
Total Split (%)		52.0%		18.7%	70.7%					29.3%		29.3%
Maximum Green (s)		70.5		20.5	98.5					36.5		36.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		73.2		19.4	100.1					34.9		34.9
Actuated g/C Ratio		0.49		0.13	0.67					0.23		0.23
v/c Ratio		0.84		0.82	0.84					0.88		0.61
Control Delay		36.4		98.0	9.0					69.2		44.5
Queue Delay		0.5		0.0	0.0					0.0		0.0
Total Delay		36.9		98.0	9.0					69.2		44.5
LOS		D		F	A					E		D
Approach Delay		36.9			22.9							
Approach LOS		D			C							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 84 (56%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 35.7
 Intersection LOS: D
 Intersection Capacity Utilization 86.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2022 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	315	2167	0	0	2059	594	161	0	252	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr t						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						462			87			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	332	2281	0	0	2167	625	169	0	265	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	332	2281	0	0	2167	625	169	0	265	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2022 NBP
 6/19/2015

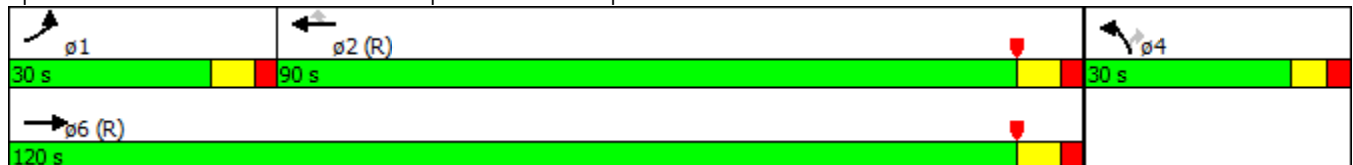


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	30.0	120.0			90.0	90.0	30.0		30.0			
Total Split (%)	20.0%	80.0%			60.0%	60.0%	20.0%		20.0%			
Maximum Green (s)	22.5	112.5			82.5	82.5	23.0		23.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	19.3	116.7			89.9	89.9	18.8		18.8			
Actuated g/C Ratio	0.13	0.78			0.60	0.60	0.13		0.13			
v/c Ratio	0.75	0.58			0.71	0.55	0.76		0.62			
Control Delay	57.4	6.9			5.4	1.7	84.5		47.5			
Queue Delay	0.0	0.6			0.2	0.6	0.0		0.0			
Total Delay	57.4	7.4			5.6	2.3	84.5		47.5			
LOS	E	A			A	A	F		D			
Approach Delay					13.8		4.8					
Approach LOS					B		A					

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 77 (51%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 13.1
 Intersection LOS: B
 Intersection Capacity Utilization 86.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 NBP
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	1806	613	59	2653	0	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		331				140
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	1901	645	62	2793	0	318
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1901	645	62	2793	0	318
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 NBP
6/19/2015

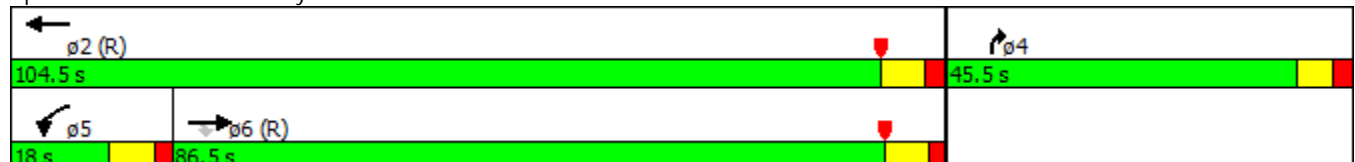


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	86.5	86.5	18.0	104.5		45.5
Total Split (%)	57.7%	57.7%	12.0%	69.7%		30.3%
Maximum Green (s)	79.5	79.5	11.0	97.0		39.0
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	98.1	98.1	10.6	112.5		23.5
Actuated g/C Ratio	0.65	0.65	0.07	0.75		0.16
v/c Ratio	0.57	0.56	0.50	0.73		0.86
Control Delay	12.3	6.3	93.0	5.2		55.2
Queue Delay	0.1	0.2	0.0	0.0		0.0
Total Delay	12.4	6.5	93.0	5.2		55.2
LOS	B	A	F	A		E
Approach Delay	10.9			7.1		
Approach LOS	B			A		

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 84 (56%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 11.5
 Intersection LOS: B
 Intersection Capacity Utilization 64.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↗		↖	↕↕↗		↖↖	↕	↖	↖	↕↗	
Volume (vph)	190	1475	60	190	1811	192	359	49	75	250	111	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.994			0.986				0.850		0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5055	0	1770	5014	0	3433	1863	1583	1770	3337	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5055	0	1770	5014	0	3433	1863	1583	1770	3337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			16				145		72	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	200	1553	63	200	1906	202	378	52	79	263	117	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1616	0	200	2108	0	378	52	79	263	189	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	18.0	77.0		17.0	76.0		30.0	20.0	20.0	36.0	26.0	
Total Split (%)	12.0%	51.3%		11.3%	50.7%		20.0%	13.3%	13.3%	24.0%	17.3%	
Maximum Green (s)	9.5	69.0		9.0	68.0		23.0	13.0	13.0	29.0	19.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	14.8	69.0		14.3	68.0		20.7	10.8	10.8	25.9	16.0	
Actuated g/C Ratio	0.10	0.46		0.10	0.45		0.14	0.07	0.07	0.17	0.11	
v/c Ratio	1.15	0.69		1.19	0.92		0.80	0.39	0.32	0.86	0.45	
Control Delay	159.1	45.8		166.1	21.5		75.5	74.8	3.4	85.7	41.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	159.1	45.8		166.1	21.5		75.5	74.8	3.4	85.7	41.6	
LOS	F	D		F	C		E	E	A	F	D	
Approach Delay		58.3			34.1			64.2			67.3	
Approach LOS		E			C			E			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 22 (15%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 48.7
 Intersection LOS: D
 Intersection Capacity Utilization 97.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2022 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	387	1321	92	32	1524	237	312	314	62	289	382	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.990				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5034	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5034	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				213		16				145
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	407	1391	97	34	1604	249	328	331	65	304	402	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	407	1488	0	34	1604	249	328	396	0	304	402	353
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2022 NBP
6/19/2015

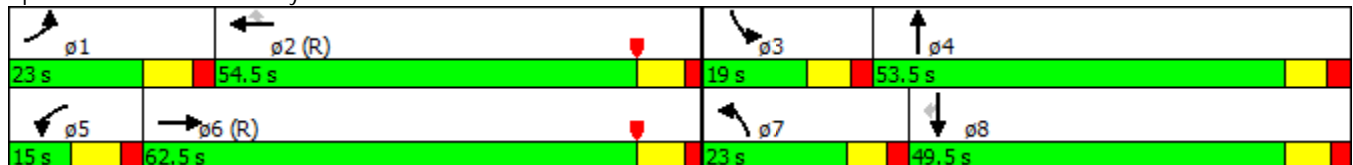


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	23.0	62.5		15.0	54.5	54.5	23.0	53.5		19.0	49.5	49.5
Total Split (%)	15.3%	41.7%		10.0%	36.3%	36.3%	15.3%	35.7%		12.7%	33.0%	33.0%
Maximum Green (s)	15.0	55.0		7.0	47.0	47.0	16.0	46.0		11.5	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	19.0	61.5		7.4	47.0	47.0	16.0	42.0		11.5	38.0	38.0
Actuated g/C Ratio	0.13	0.41		0.05	0.31	0.31	0.11	0.28		0.08	0.25	0.25
v/c Ratio	0.94	0.72		0.39	1.01	0.39	0.90	0.41		1.16	0.85	0.69
Control Delay	91.2	47.5		82.7	75.0	9.4	92.9	42.7		162.5	70.5	36.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	91.2	47.5		82.7	75.0	9.4	92.9	42.7		162.5	70.5	36.3
LOS	F	D		F	E	A	F	D		F	E	D
Approach Delay		56.9			66.4			65.4			85.5	
Approach LOS		E			E			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 66.7
 Intersection LOS: E
 Intersection Capacity Utilization 94.5%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	1174	96	474	576	61	89	257	524	59	420	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.986				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3456	0	1752	1845	1568	1752	1815	0
Flt Permitted	0.950			0.950			0.162			0.469		
Satd. Flow (perm)	1752	3505	1568	3400	3456	0	299	1845	1568	865	1815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101		11				345		5	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	1236	101	499	606	64	94	271	552	62	442	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	1236	101	499	670	0	94	271	552	62	496	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2032 NBP
6/19/2015

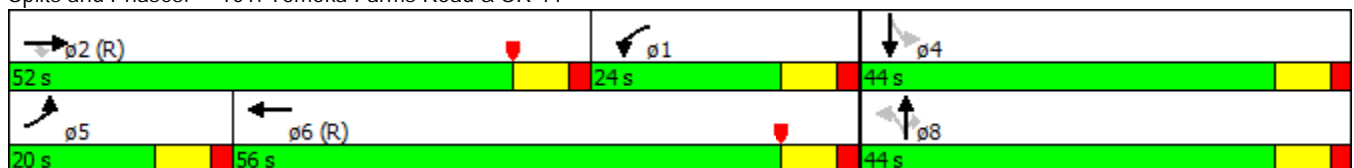


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	20.0	52.0	52.0	24.0	56.0		44.0	44.0	44.0	44.0	44.0	
Total Split (%)	16.7%	43.3%	43.3%	20.0%	46.7%		36.7%	36.7%	36.7%	36.7%	36.7%	
Maximum Green (s)	13.0	45.0	45.0	17.0	49.0		37.0	37.0	37.0	37.0	37.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	10.9	45.0	45.0	17.0	51.1		37.0	37.0	37.0	37.0	37.0	
Actuated g/C Ratio	0.09	0.38	0.38	0.14	0.43		0.31	0.31	0.31	0.31	0.31	
v/c Ratio	0.58	0.94	0.16	1.04	0.45		1.02	0.48	0.76	0.23	0.88	
Control Delay	66.9	50.8	5.3	101.1	25.7		143.2	37.1	21.5	33.9	57.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.9	50.8	5.3	101.1	25.7		143.2	37.1	21.5	33.9	57.5	
LOS	E	D	A	F	C		F	D	C	C	E	
Approach Delay		48.6			57.9			38.6			54.9	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 49.9
 Intersection LOS: D
 Intersection Capacity Utilization 107.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	1344	366	453	705	454	254	69	346	589	64	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		300	515		375	250		250	250		250
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.324			0.950			0.950			0.950		
Satd. Flow (perm)	598	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			286			478			273			214
Link Speed (mph)		65		65			30			30		
Link Distance (ft)		8741		1490			520			522		
Travel Time (s)		91.7		15.6			11.8			11.9		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	1415	385	477	742	478	267	73	364	620	67	175
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1415	385	477	742	478	267	73	364	620	67	175
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28		28			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4

Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0
Minimum Split (s)	12.0	23.5	23.5	12.0	36.5	36.5	12.0	36.5	36.5	12.0	23.5	23.5
Total Split (s)	12.0	53.0	53.0	20.0	61.0	61.0	23.0	25.0	25.0	32.0	34.0	34.0
Total Split (%)	9.2%	40.8%	40.8%	15.4%	46.9%	46.9%	17.7%	19.2%	19.2%	24.6%	26.2%	26.2%
Maximum Green (s)	5.0	45.5	45.5	13.0	53.5	53.5	16.0	17.5	17.5	25.0	26.5	26.5
Yellow Time (s)	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0		7.0	7.0			
Flash Dont Walk (s)					22.0	22.0		22.0	22.0			
Pedestrian Calls (#/hr)					0	0		0	0			
Act Effct Green (s)	51.9	45.5	45.5	13.9	53.5	53.5	14.5	16.6	16.6	25.0	27.1	27.1
Actuated g/C Ratio	0.40	0.35	0.35	0.11	0.41	0.41	0.11	0.13	0.13	0.19	0.21	0.21
v/c Ratio	0.31	1.15	0.52	1.31	0.51	0.52	0.70	0.31	0.83	0.95	0.17	0.35
Control Delay	17.2	111.2	6.3	199.7	21.1	7.1	66.1	55.2	31.6	76.7	44.2	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	111.2	6.3	199.7	21.1	7.1	66.1	55.2	31.6	76.7	44.2	4.4
LOS	B	F	A	F	C	A	E	E	C	E	D	A
Approach Delay		85.3			67.4			47.1			59.5	
Approach LOS		F			E			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 58 (45%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.31
 Intersection Signal Delay: 69.9
 Intersection LOS: E
 Intersection Capacity Utilization 93.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 103: Williamson Blvd & SR 44



Intersection

Int Delay, s/veh 5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1658	621	141	1275	0	0	0	0	0	0	337
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1745	654	148	1342	0	0	0	0	0	0	355

Major/Minor	Major1	Major2	Minor2						
Conflicting Flow All	1342	0	0	1745	0	0	2512	3384	671
Stage 1	-	-	-	-	-	-	1639	1639	-
Stage 2	-	-	-	-	-	-	873	1745	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	504	-	-	352	-	-	23	7	397
Stage 1	-	-	-	-	-	-	142	155	-
Stage 2	-	-	-	-	-	-	367	137	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	504	-	-	352	-	-	13	0	397
Mov Cap-2 Maneuver	-	-	-	-	-	-	59	0	-
Stage 1	-	-	-	-	-	-	82	0	-
Stage 2	-	-	-	-	-	-	367	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.2	55.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	504	-	-	352	-	-	397
HCM Lane V/C Ratio	-	-	-	0.422	-	-	0.894
HCM Control Delay (s)	0	-	-	22.5	-	-	55.1
HCM Lane LOS	A	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0	-	-	2	-	-	9.2

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2032 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	389	2136	0	0	954	612	462	0	212	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.179						0.950					
Satd. Flow (perm)	330	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						590			97			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	409	2248	0	0	1004	644	486	0	223	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	409	2248	0	0	1004	644	486	0	223	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2032 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	37.0	101.0			64.0	64.0	29.0		29.0			
Total Split (%)	28.5%	77.7%			49.2%	49.2%	22.3%		22.3%			
Maximum Green (s)	30.0	93.5			56.5	56.5	22.9		22.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effect Green (s)	94.7	94.2			64.7	64.7	22.2		22.2			
Actuated g/C Ratio	0.73	0.72			0.50	0.50	0.17		0.17			
v/c Ratio	0.84	0.89			0.58	0.60	0.84		0.64			
Control Delay	31.5	12.6			9.8	2.1	65.9		36.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	31.5	12.6			9.8	2.1	65.9		36.9			
LOS	C	B			A	A	E		D			
Approach Delay		15.5			6.8							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 18.5
 Intersection LOS: B
 Intersection Capacity Utilization 83.5%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

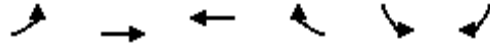
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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Volume (vph)	295	2053	1365	95	94	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.090				0.950	
Satd. Flow (perm)	166	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				64		212
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	311	2161	1437	100	99	212
Shared Lane Traffic (%)						
Lane Group Flow (vph)	311	2161	1437	100	99	212
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2032 NBP
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	35.0	106.0	71.0	71.0	24.0	24.0
Total Split (%)	26.9%	81.5%	54.6%	54.6%	18.5%	18.5%
Maximum Green (s)	27.5	98.5	63.5	63.5	17.3	17.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	102.4	102.4	73.0	73.0	13.4	13.4
Actuated g/C Ratio	0.79	0.79	0.56	0.56	0.10	0.10
v/c Ratio	0.78	0.78	0.73	0.11	0.55	0.60
Control Delay	33.9	11.8	25.7	7.3	66.5	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	11.8	25.7	7.3	66.5	14.4
LOS	C	B	C	A	E	B
Approach Delay	14.6		24.5		30.9	
Approach LOS	B		C		C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 111 (85%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 19.3
 Intersection LOS: B
 Intersection Capacity Utilization 77.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	251	263	43	26	236	204	27	145	34	226	161	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.979			0.930				0.850			0.850
Flt Protected	0.950			0.950				0.992		0.950		
Satd. Flow (prot)	1770	1824	0	1770	1732	0	0	1848	1583	1770	3539	1583
Flt Permitted	0.220			0.566				0.992		0.950		
Satd. Flow (perm)	410	1824	0	1054	1732	0	0	1848	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			39				227			271
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	264	277	45	27	248	215	28	153	36	238	169	271
Shared Lane Traffic (%)												
Lane Group Flow (vph)	264	322	0	27	463	0	0	181	36	238	169	271
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2032 NBP
6/19/2015

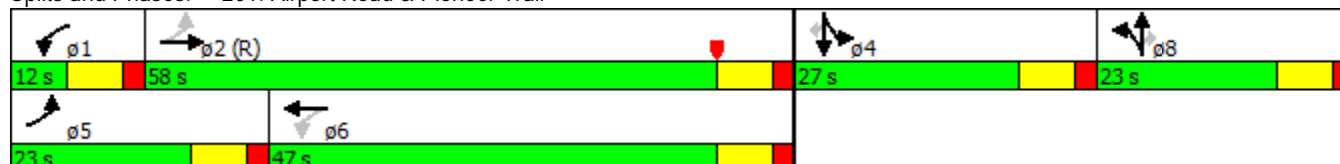


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	23.0	58.0		12.0	47.0		23.0	23.0	23.0	27.0	27.0	27.0
Total Split (%)	19.2%	48.3%		10.0%	39.2%		19.2%	19.2%	19.2%	22.5%	22.5%	22.5%
Maximum Green (s)	16.0	51.0		5.0	40.0		16.0	16.0	16.0	20.0	20.0	20.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	63.0	55.8		46.7	41.7		16.0	16.0	20.0	20.0	20.0	20.0
Actuated g/C Ratio	0.52	0.46		0.39	0.35		0.13	0.13	0.17	0.17	0.17	0.17
v/c Ratio	0.70	0.38		0.06	0.74		0.74	0.09	0.81	0.29	0.55	0.55
Control Delay	26.6	23.1		12.0	27.0		68.4	0.4	69.5	45.3	9.9	9.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	23.1		12.0	27.0		68.4	0.4	69.5	45.3	9.9	9.9
LOS	C	C		B	C		E	A	E	D	A	A
Approach Delay		24.7			26.2		57.1				39.6	
Approach LOS		C			C		E				D	

Intersection Summary

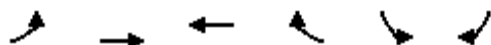
Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 10 (8%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 33.8
 Intersection LOS: C
 Intersection Capacity Utilization 83.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 NBP
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	253	270	241	459	444	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Fl _t Permitted	0.422				0.950	
Satd. Flow (perm)	786	3539	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				483		237
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	2836		1084	
Travel Time (s)		9.2	43.0		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	266	284	254	483	467	237
Shared Lane Traffic (%)						
Lane Group Flow (vph)	266	284	254	483	467	237
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 NBP
6/19/2015

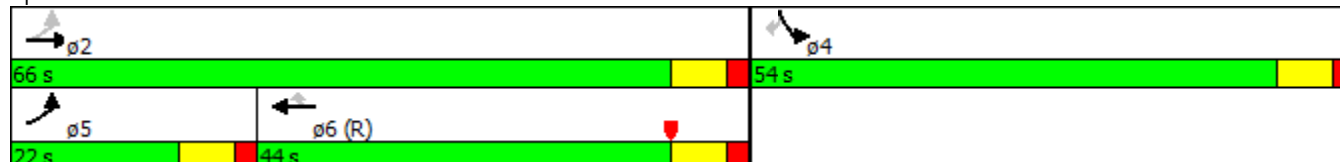


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	22.0	66.0	44.0	44.0	54.0	54.0
Total Split (%)	18.3%	55.0%	36.7%	36.7%	45.0%	45.0%
Maximum Green (s)	15.0	59.0	37.0	37.0	47.0	47.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	59.0	59.0	38.0	38.0	47.0	47.0
Actuated g/C Ratio	0.49	0.49	0.32	0.32	0.39	0.39
v/c Ratio	0.53	0.16	0.43	0.58	0.67	0.31
Control Delay	22.0	16.3	35.6	5.9	36.1	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	16.3	35.6	5.9	36.1	4.1
LOS	C	B	D	A	D	A
Approach Delay		19.1	16.1		25.3	
Approach LOS		B	B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 20.2
 Intersection LOS: C
 Intersection Capacity Utilization 68.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Intersection

Int Delay, s/veh 6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	204	496	28	205	509
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	215	522	29	216	536

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1504	537	0 0 552 0
Stage 1	537	-	- - - -
Stage 2	967	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	134	544	- - 1018 -
Stage 1	586	-	- - - -
Stage 2	369	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	106	544	- - 1018 -
Mov Cap-2 Maneuver	106	-	- - - -
Stage 1	586	-	- - - -
Stage 2	291	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	32.1	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 367	1018	-
HCM Lane V/C Ratio	-	- 0.663	0.212	-
HCM Control Delay (s)	-	- 32.1	9.5	-
HCM Lane LOS	-	- D	A	-
HCM 95th %tile Q(veh)	-	- 4.6	0.8	-

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	86	398	52	94	396	51	46	84	66	23	93	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.987			0.955			0.944	
Flt Protected		0.992			0.991			0.988			0.994	
Satd. Flow (prot)	0	1824	0	0	1822	0	0	1758	0	0	1748	0
Flt Permitted		0.828			0.812			0.876			0.945	
Satd. Flow (perm)	0	1522	0	0	1493	0	0	1558	0	0	1662	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8			23			33	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	91	419	55	99	417	54	48	88	69	24	98	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	565	0	0	570	0	0	205	0	0	208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

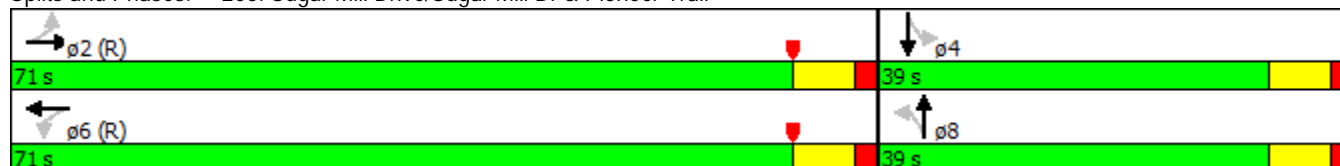


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	71.0	71.0		71.0	71.0		39.0	39.0		39.0	39.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Maximum Green (s)	64.0	64.0		64.0	64.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		64.0			64.0			32.0			32.0	
Actuated g/C Ratio		0.58			0.58			0.29			0.29	
v/c Ratio		0.64			0.65			0.44			0.41	
Control Delay		19.1			19.8			31.4			29.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.1			19.8			31.4			29.1	
LOS		B			B			C			C	
Approach Delay		19.1			19.8			31.4			29.1	
Approach LOS		B			B			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	22.3
Intersection LOS:	C
Intersection Capacity Utilization:	71.1%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	224	9	7	226	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	9	7	238	5	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	236
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1331
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1331
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	612	-	-	1331	-
HCM Lane V/C Ratio	0.014	-	-	0.006	-
HCM Control Delay (s)	11	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	143	55	155	152	60	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	151	58	163	160	63	168

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	208
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1363
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1363
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	633	-	-	1363	-
HCM Lane V/C Ratio	0.366	-	-	0.12	-
HCM Control Delay (s)	13.9	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.4	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	889	24	57	1035	65	17	19	28	68	40	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.872
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1624	0
Flt Permitted	0.950			0.950			0.245			0.622		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	456	1863	1583	1159	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			179
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	111	936	25	60	1089	68	18	20	29	72	42	245
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	936	25	60	1089	68	18	20	29	72	287	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2032 NBP
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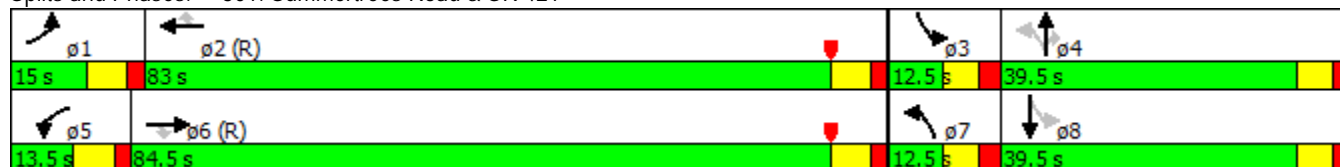


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	15.0	84.5	84.5	13.5	83.0	83.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.0%	56.3%	56.3%	9.0%	55.3%	55.3%	8.3%	26.3%	26.3%	8.3%	26.3%	
Maximum Green (s)	8.5	78.0	78.0	7.0	76.5	76.5	6.0	33.0	33.0	6.0	33.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	17.3	92.9	92.9	10.6	86.2	86.2	21.0	17.0	17.0	23.1	19.5	
Actuated g/C Ratio	0.12	0.62	0.62	0.07	0.57	0.57	0.14	0.11	0.11	0.15	0.13	
v/c Ratio	0.54	0.81	0.02	0.48	1.02	0.07	0.16	0.09	0.10	0.35	0.78	
Control Delay	73.5	31.6	0.0	79.5	64.4	0.1	48.1	56.4	0.7	54.4	38.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.5	31.6	0.0	79.5	64.4	0.1	48.1	56.4	0.7	54.4	38.2	
LOS	E	C	A	E	E	A	D	E	A	D	D	
Approach Delay		35.2			61.5			30.1			41.4	
Approach LOS		D			E			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	145
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	47.7
Intersection LOS:	D
Intersection Capacity Utilization:	93.0%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2032 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔↔	↕↕	↔	↔↔	↕↕	↔↔	↔↔	↔↔	↕↔
Volume (vph)	86	763	136	876	1002	832	117	507	533	1096	1137	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				76			124			10
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	91	803	143	922	1055	876	123	534	561	1154	1197	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	946	0	922	1055	876	123	534	561	1154	1373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2032 NBP
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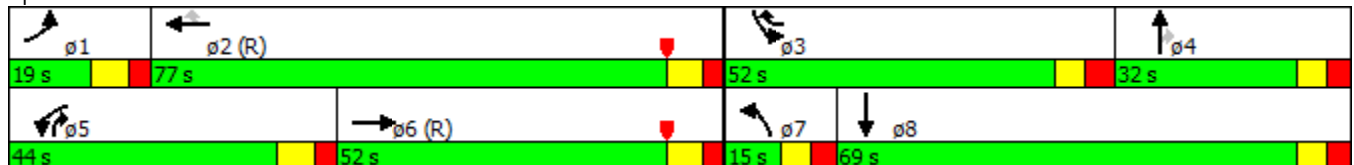


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	19.0	52.0		44.0	77.0	52.0	15.0	32.0	44.0	52.0		69.0
Total Split (%)	10.6%	28.9%		24.4%	42.8%	28.9%	8.3%	17.8%	24.4%	28.9%		38.3%
Maximum Green (s)	11.0	44.0		36.0	69.0	44.0	7.5	24.5	36.0	44.0		61.5
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effect Green (s)	9.7	44.0		36.0	70.3	122.3	7.5	24.5	68.0	44.0		61.5
Actuated g/C Ratio	0.05	0.24		0.20	0.39	0.68	0.04	0.14	0.38	0.24		0.34
v/c Ratio	0.49	0.77		1.34	0.76	0.80	0.86	1.11	0.50	1.38		1.15
Control Delay	91.8	66.9		209.3	59.5	21.4	128.7	142.3	34.4	224.3		129.3
Queue Delay	0.0	2.8		0.0	14.9	6.6	0.0	0.0	0.0	0.0		0.0
Total Delay	91.8	69.7		209.3	74.4	28.0	128.7	142.3	34.4	224.3		129.3
LOS	F	E		F	E	C	F	F	C	F		F
Approach Delay		71.7			103.7			91.2				172.7
Approach LOS		E			F			F				F

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 162 (90%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.38
 Intersection Signal Delay: 120.2 Intersection LOS: F
 Intersection Capacity Utilization 114.3% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2032 NBP
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2144	248	434	2138	0	0	0	0	763	0	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.984										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5004	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5004	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2257	261	457	2251	0	0	0	0	803	0	602
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2518	0	457	2251	0	0	0	0	803	0	602
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2032 NBP
 6/19/2015

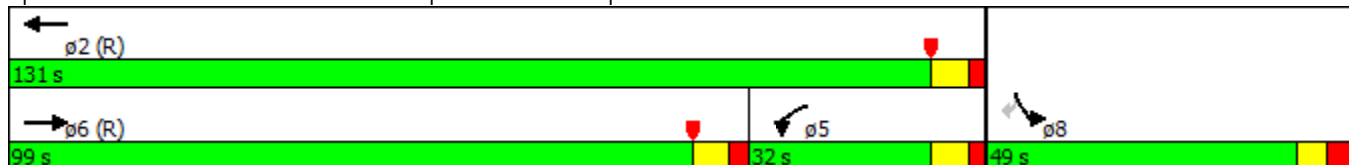


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		99.0		32.0	131.0					49.0		49.0
Total Split (%)		55.0%		17.8%	72.8%					27.2%		27.2%
Maximum Green (s)		91.5		24.5	123.5					41.5		41.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		91.5		24.5	123.5					41.5		41.5
Actuated g/C Ratio		0.51		0.14	0.69					0.23		0.23
v/c Ratio		0.99		0.98	0.93					1.02		0.86
Control Delay		27.7		84.2	14.4					102.6		71.6
Queue Delay		40.4		0.0	14.9					0.0		50.6
Total Delay		68.0		84.2	29.4					102.6		122.2
LOS		E		F	C					F		F
Approach Delay		68.0			38.6							
Approach LOS		E			D							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 43 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 65.1
 Intersection LOS: E
 Intersection Capacity Utilization 99.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2032 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	437	2470	0	0	2320	664	252	0	313	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						370			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	460	2600	0	0	2442	699	265	0	329	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	460	2600	0	0	2442	699	265	0	329	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2032 NBP
 6/19/2015

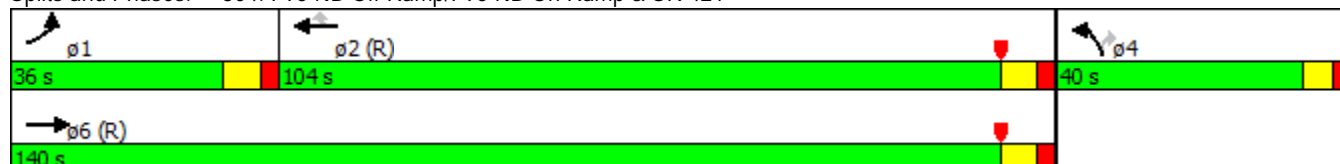


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	36.0	140.0			104.0	104.0	40.0		40.0			
Total Split (%)	20.0%	77.8%			57.8%	57.8%	22.2%		22.2%			
Maximum Green (s)	28.5	132.5			96.5	96.5	33.0		33.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	27.2	135.2			100.5	100.5	30.3		30.3			
Actuated g/C Ratio	0.15	0.75			0.56	0.56	0.17		0.17			
v/c Ratio	0.89	0.68			0.86	0.67	0.89		0.62			
Control Delay	88.6	0.9			21.3	7.5	102.8		58.7			
Queue Delay	0.0	0.6			2.3	1.7	0.0		0.0			
Total Delay	88.6	1.5			23.6	9.2	102.8		58.7			
LOS	F	A			C	A	F		E			
Approach Delay		14.6			20.4							
Approach LOS		B			C							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 53 (29%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 22.9
 Intersection LOS: C
 Intersection Capacity Utilization 99.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2032 NBP
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2074	709	65	2984	0	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		313				126
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2183	746	68	3141	0	358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2183	746	68	3141	0	358
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2032 NBP
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	112.0	112.0	20.0	132.0		48.0
Total Split (%)	62.2%	62.2%	11.1%	73.3%		26.7%
Maximum Green (s)	105.0	105.0	13.0	124.5		41.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	115.6	115.6	11.5	133.6		32.4
Actuated g/C Ratio	0.64	0.64	0.06	0.74		0.18
v/c Ratio	0.67	0.66	0.61	0.83		0.91
Control Delay	13.5	6.6	71.6	27.1		73.7
Queue Delay	0.3	0.4	0.0	2.2		0.0
Total Delay	13.8	7.0	71.6	29.3		73.7
LOS	B	A	E	C		E
Approach Delay	12.1			30.2		
Approach LOS	B			C		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 51 (28%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 24.4
 Intersection LOS: C
 Intersection Capacity Utilization 72.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	203	1728	71	223	2019	230	410	56	85	285	128	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.994			0.985				0.850		0.944	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5055	0	1770	5009	0	3433	1863	1583	1770	3341	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5055	0	1770	5009	0	3433	1863	1583	1770	3341	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			14				124		62	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	214	1819	75	235	2125	242	432	59	89	300	135	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	1894	0	235	2367	0	432	59	89	300	216	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2032 NBP
6/19/2015

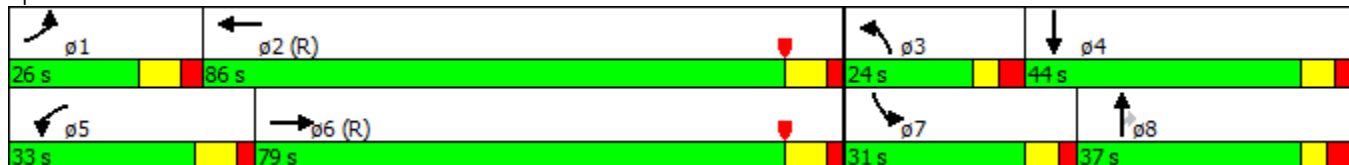


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	26.0	79.0		33.0	86.0		24.0	37.0	37.0	31.0	44.0	
Total Split (%)	14.4%	43.9%		18.3%	47.8%		13.3%	20.6%	20.6%	17.2%	24.4%	
Maximum Green (s)	17.5	71.0		25.0	78.0		17.0	30.0	30.0	24.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	34.4	82.4		31.7	79.3		17.0	11.8	11.8	24.0	18.8	
Actuated g/C Ratio	0.19	0.46		0.18	0.44		0.09	0.07	0.07	0.13	0.10	
v/c Ratio	0.63	0.82		0.76	1.07		1.33	0.48	0.40	1.27	0.53	
Control Delay	92.3	31.9		70.8	78.0		226.6	93.9	8.7	208.8	58.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	92.3	31.9		70.8	78.0		226.6	93.9	8.7	208.8	58.8	
LOS	F	C		E	E		F	F	A	F	E	
Approach Delay		38.0			77.4			179.7			146.0	
Approach LOS		D			E			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 62 (34%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.33
 Intersection Signal Delay: 79.4
 Intersection LOS: E
 Intersection Capacity Utilization 104.9%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2032 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	470	1430	198	53	1766	272	375	377	75	294	435	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.982				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4994	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4994	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				189		12				182
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	495	1505	208	56	1859	286	395	397	79	309	458	389
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	1713	0	56	1859	286	395	476	0	309	458	389
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2032 NBP
6/19/2015

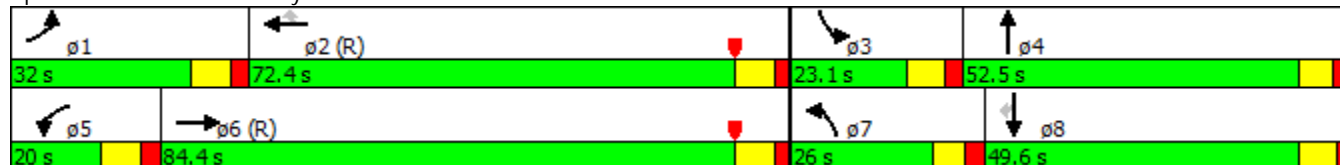


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	32.0	84.4		20.0	72.4	72.4	26.0	52.5		23.1	49.6	49.6
Total Split (%)	17.8%	46.9%		11.1%	40.2%	40.2%	14.4%	29.2%		12.8%	27.6%	27.6%
Maximum Green (s)	24.0	76.9		12.0	64.9	64.9	19.0	45.0		15.6	42.1	42.1
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	24.0	81.3		10.8	64.9	64.9	19.0	45.0		15.6	42.1	42.1
Actuated g/C Ratio	0.13	0.45		0.06	0.36	0.36	0.11	0.25		0.09	0.23	0.23
v/c Ratio	1.08	0.76		0.53	1.01	0.41	1.09	0.55		1.04	1.05	0.76
Control Delay	104.3	53.2		99.8	80.6	15.7	145.0	59.8		139.2	121.5	44.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	104.3	53.2		99.8	80.6	15.7	145.0	59.8		139.2	121.5	44.4
LOS	F	D		F	F	B	F	E		F	F	D
Approach Delay		64.6			72.6			98.4			100.3	
Approach LOS		E			E			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 78.3
 Intersection LOS: E
 Intersection Capacity Utilization 106.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	1477	149	604	668	83	130	326	672	84	534	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.983				0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3445	0	1752	1845	1568	1752	1811	0
Flt Permitted	0.950			0.950			0.098			0.302		
Satd. Flow (perm)	1752	3505	1568	3400	3445	0	181	1845	1568	557	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131		10				278			4
Link Speed (mph)		65			65			30				30
Link Distance (ft)		2043			14703			1198				1442
Travel Time (s)		21.4			154.2			27.2				32.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	123	1555	157	636	703	87	137	343	707	88	562	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	1555	157	636	790	0	137	343	707	88	638	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		3	8	8	7	4	

Lanes, Volumes, Timings
 103: Williamson Blvd/Williamson Boulevard & SR 44

2042 NBP
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	1762	362	511	1035	508	211	200	416	709	94	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		300	515		375	250		250	250		180
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.173			0.950			0.950			0.950		
Satd. Flow (perm)	319	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187			486			245			189
Link Speed (mph)		65		65			30				35	
Link Distance (ft)		8741		1490			520				805	
Travel Time (s)		91.7		15.6			11.8				15.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	134	1855	381	538	1089	535	222	211	438	746	99	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	1855	381	538	1089	535	222	211	438	746	99	105
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28		28			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4

Lanes, Volumes, Timings
 103: Williamson Blvd/Williamson Boulevard & SR 44

2042 NBP
 6/19/2015

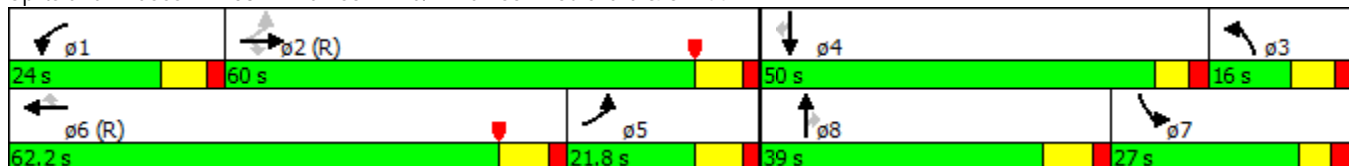


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0	7.0	7.0	7.0
Minimum Split (s)	12.5	23.5	23.5	12.0	36.5	36.5	12.0	36.5	36.5	13.1	44.1	44.1
Total Split (s)	21.8	60.0	60.0	24.0	62.2	62.2	16.0	39.0	39.0	27.0	50.0	50.0
Total Split (%)	14.5%	40.0%	40.0%	16.0%	41.5%	41.5%	10.7%	26.0%	26.0%	18.0%	33.3%	33.3%
Maximum Green (s)	14.3	52.5	52.5	17.0	54.7	54.7	9.0	31.5	31.5	20.9	43.9	43.9
Yellow Time (s)	5.5	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	3.7	3.7	3.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					22.0	22.0		22.0	22.0		31.0	31.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	52.5	52.5	52.5	17.0	54.7	54.7	39.5	26.4	26.4	26.0	13.4	13.4
Actuated g/C Ratio	0.35	0.35	0.35	0.11	0.36	0.36	0.26	0.18	0.18	0.17	0.09	0.09
v/c Ratio	0.54	1.51	0.57	1.40	0.85	0.61	0.25	0.65	0.92	1.27	0.60	0.34
Control Delay	43.1	261.4	11.7	236.9	45.1	8.8	45.4	66.3	50.8	181.8	80.1	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	261.4	11.7	236.9	45.1	8.8	45.4	66.3	50.8	181.8	80.1	2.9
LOS	D	F	B	F	D	A	D	E	D	F	F	A
Approach Delay		208.9			83.8			53.1			151.4	
Approach LOS		F			F			D			F	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 110 (73%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.51
 Intersection Signal Delay: 136.4 Intersection LOS: F
 Intersection Capacity Utilization 120.3% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 103: Williamson Blvd/Williamson Boulevard & SR 44



Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

2042 NBP
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑							↑
Volume (vph)	0	2085	802	151	1543	0	0	0	0	0	0	511
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	255		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		1
Taper Length (ft)	0			150			0			0		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected				0.950								
Satd. Flow (prot)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Flt Permitted				0.950								
Satd. Flow (perm)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			510									80
Link Speed (mph)		65			65			35			35	
Link Distance (ft)		1490			470			569			611	
Travel Time (s)		15.6			4.9			11.1			11.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2195	844	159	1624	0	0	0	0	0	0	538
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2195	844	159	1624	0	0	0	0	0	0	538
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		38			30			0			0	
Link Offset(ft)		0			0			-60			30	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2							1
Detector Template		Thru	Right	Left	Thru							Right
Leading Detector (ft)		100	20	20	100							20
Trailing Detector (ft)		0	0	0	0							0
Detector 1 Position(ft)		0	0	0	0							0
Detector 1 Size(ft)		6	20	20	6							20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex							Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0							0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Detector Phase		2	2	1	6							4

Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

2042 NBP
 6/19/2015

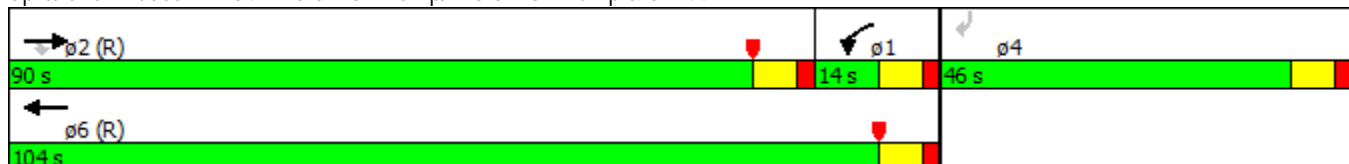


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0							4.0
Minimum Split (s)		23.0	23.0	11.0	23.0							23.0
Total Split (s)		90.0	90.0	14.0	104.0							46.0
Total Split (%)		60.0%	60.0%	9.3%	69.3%							30.7%
Maximum Green (s)		83.0	83.0	7.0	97.0							39.0
Yellow Time (s)		5.0	5.0	5.0	5.0							5.0
All-Red Time (s)		2.0	2.0	2.0	2.0							2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0							7.0
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Recall Mode		C-Max	C-Max	None	C-Max							None
Walk Time (s)		5.0	5.0		5.0							5.0
Flash Dont Walk (s)		11.0	11.0		11.0							11.0
Pedestrian Calls (#/hr)		0	0		0							0
Act Effect Green (s)		83.0	83.0	7.0	97.0							39.0
Actuated g/C Ratio		0.55	0.55	0.05	0.65							0.26
v/c Ratio		1.13	0.77	1.01	0.72							1.14
Control Delay		76.6	5.8	124.0	18.4							125.7
Queue Delay		0.0	0.0	0.0	0.1							0.0
Total Delay		76.6	5.8	124.0	18.5							125.7
LOS		E	A	F	B							F
Approach Delay		56.9			27.9							
Approach LOS		E			C							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 54.2
 Intersection Capacity Utilization 126.7%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service H

Splits and Phases: 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44



Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2042 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑			↑↑	↖	↖↗		↖			
Volume (vph)	522	2570	0	0	1072	670	622	0	225	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	2		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr t						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3400	5036	0	0	3505	1568	3400	0	1568	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3400	5036	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						609			84			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			994			678				629
Travel Time (s)		5.5			12.3			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	549	2705	0	0	1128	705	655	0	237	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	549	2705	0	0	1128	705	655	0	237	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases						2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

2042 NBP
 6/19/2015

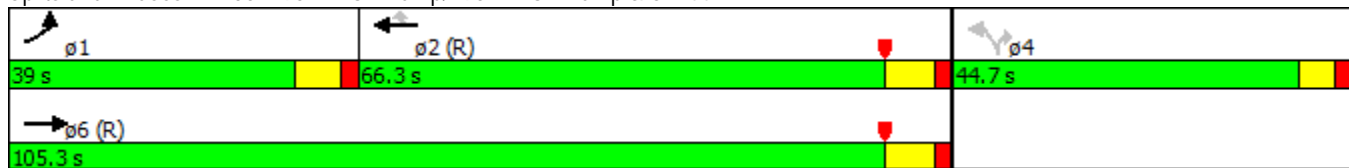


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	39.0	105.3			66.3	66.3	44.7		44.7			
Total Split (%)	26.0%	70.2%			44.2%	44.2%	29.8%		29.8%			
Maximum Green (s)	32.0	97.8			58.8	58.8	38.6		38.6			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effect Green (s)	28.6	101.2			65.6	65.6	35.2		35.2			
Actuated g/C Ratio	0.19	0.67			0.44	0.44	0.23		0.23			
v/c Ratio	0.85	0.80			0.74	0.69	0.82		0.55			
Control Delay	82.5	4.5			15.5	3.5	63.6		36.5			
Queue Delay	0.0	0.3			0.0	0.0	0.0		0.0			
Total Delay	82.5	4.8			15.5	3.5	63.6		36.5			
LOS	F	A			B	A	E		D			
Approach Delay		17.9			10.9							
Approach LOS		B			B							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 21.5
 Intersection LOS: C
 Intersection Capacity Utilization 77.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2042 NBP
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↖	↗
Volume (vph)	407	2388	1451	106	106	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.064				0.950	
Satd. Flow (perm)	118	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				60		306
Link Speed (mph)		55	55		45	
Link Distance (ft)		1343	522		572	
Travel Time (s)		16.6	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	428	2514	1527	112	112	306
Shared Lane Traffic (%)						
Lane Group Flow (vph)	428	2514	1527	112	112	306
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

2042 NBP
6/19/2015

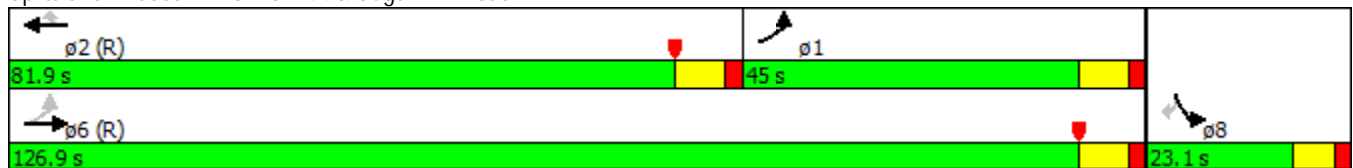


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	45.0	126.9	81.9	81.9	23.1	23.1
Total Split (%)	30.0%	84.6%	54.6%	54.6%	15.4%	15.4%
Maximum Green (s)	37.5	119.4	74.4	74.4	16.4	16.4
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	121.3	121.3	76.3	76.3	14.5	14.5
Actuated g/C Ratio	0.81	0.81	0.51	0.51	0.10	0.10
v/c Ratio	0.85	0.89	0.86	0.14	0.66	0.72
Control Delay	35.4	8.9	38.4	10.1	84.1	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	8.9	38.4	10.1	84.1	16.4
LOS	D	A	D	B	F	B
Approach Delay	12.7		36.5	34.5		
Approach LOS	B		D	C		

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 142 (95%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 22.3
 Intersection LOS: C
 Intersection Capacity Utilization 86.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	361	52	33	324	279	33	162	43	309	182	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	2		0	1		0	1		1	2		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00
Frt		0.981			0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1827	0	1770	1734	0	1770	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.496			0.631			0.950		
Satd. Flow (perm)	3433	1827	0	924	1734	0	1175	1863	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			34				249			354
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	347	380	55	35	341	294	35	171	45	325	192	354
Shared Lane Traffic (%)												
Lane Group Flow (vph)	347	435	0	35	635	0	35	171	45	325	192	354
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			16				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		pm+pt	NA		pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases				6			8		8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2042 NBP
6/19/2015

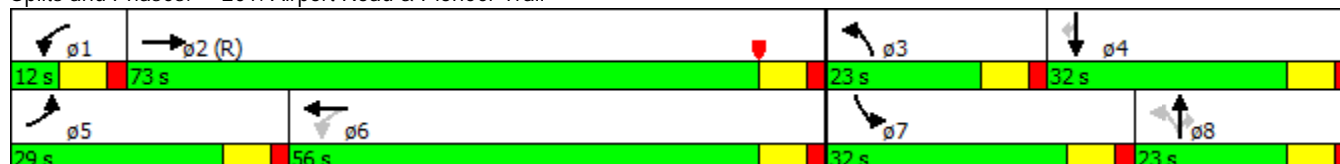


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	29.0	73.0		12.0	56.0		23.0	23.0	23.0	32.0	32.0	32.0
Total Split (%)	20.7%	52.1%		8.6%	40.0%		16.4%	16.4%	16.4%	22.9%	22.9%	22.9%
Maximum Green (s)	22.0	66.0		5.0	49.0		16.0	16.0	16.0	25.0	25.0	25.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	18.9	68.4		57.1	52.1		32.0	16.0	16.0	25.0	25.0	25.0
Actuated g/C Ratio	0.14	0.49		0.41	0.37		0.23	0.11	0.11	0.18	0.18	0.18
v/c Ratio	0.75	0.49		0.09	0.95		0.10	0.81	0.11	0.53	0.30	0.62
Control Delay	68.7	26.6		9.1	48.8		32.7	87.6	0.6	55.8	51.5	9.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	26.6		9.1	48.8		32.7	87.6	0.6	55.8	51.5	9.9
LOS	E	C		A	D		C	F	A	E	D	A
Approach Delay		45.3			46.7			64.4			36.2	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 19 (14%), Referenced to phase 2:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 44.4 Intersection LOS: D
 Intersection Capacity Utilization 84.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail

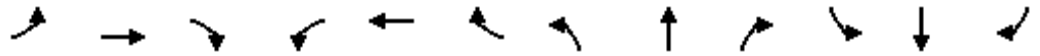


Lanes, Volumes, Timings

2042 NBP

202: Williamson Blvd/Williamson Boulevard & Pioneer Trail

6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	427	106	211	373	439	63	162	147	473	374	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	250		250	250		250
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.970				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3433	0	1770	1863	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.330			0.303			0.529			0.950		
Satd. Flow (perm)	615	3433	0	564	1863	1583	985	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				462			195			211
Link Speed (mph)		45			45			30				35
Link Distance (ft)		609			2836			511				1084
Travel Time (s)		9.2			43.0			11.6				21.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	189	449	112	222	393	462	66	171	155	498	394	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	189	561	0	222	393	462	66	171	155	498	394	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8			4

Lanes, Volumes, Timings
 202: Williamson Blvd/Williamson Boulevard & Pioneer Trail

2042 NBP
 6/19/2015

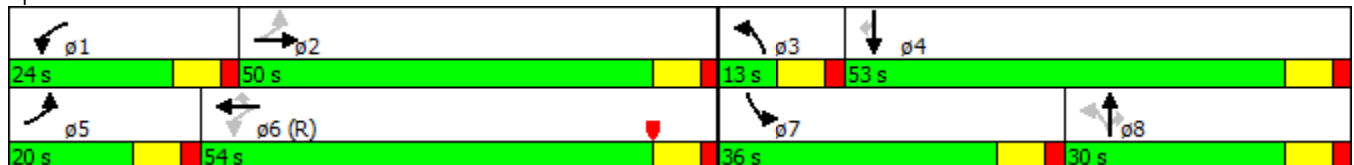


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0	23.0	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	50.0		24.0	54.0	54.0	13.0	30.0	30.0	36.0	53.0	53.0
Total Split (%)	14.3%	35.7%		17.1%	38.6%	38.6%	9.3%	21.4%	21.4%	25.7%	37.9%	37.9%
Maximum Green (s)	13.0	43.0		17.0	47.0	47.0	6.0	23.0	23.0	29.0	46.0	46.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	C-Max	C-Max	None	None	None	None	Max	Max
Walk Time (s)		5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0	0	0	0
Act Effect Green (s)	57.3	45.1		62.7	47.8	47.8	33.0	27.0	27.0	25.0	48.6	48.6
Actuated g/C Ratio	0.41	0.32		0.45	0.34	0.34	0.24	0.19	0.19	0.18	0.35	0.35
v/c Ratio	0.54	0.50		0.58	0.62	0.55	0.25	0.48	0.34	0.81	0.61	0.31
Control Delay	28.8	38.7		19.6	33.7	6.6	29.9	56.4	4.6	66.3	43.7	5.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	38.7		19.6	33.7	6.6	29.9	56.4	4.6	66.3	43.7	5.4
LOS	C	D		B	C	A	C	E	A	E	D	A
Approach Delay		36.2			19.2			31.5			46.6	
Approach LOS		D			B			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 33.6
 Intersection LOS: C
 Intersection Capacity Utilization 76.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 202: Williamson Blvd/Williamson Boulevard & Pioneer Trail



Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

2042 NBP
6/19/2015



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	28	291	732	30	279	768
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1853	0	1770	1863
Flt Permitted	0.950				0.232	
Satd. Flow (perm)	1770	1583	1853	0	432	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		306	2			
Link Speed (mph)	45		35			45
Link Distance (ft)	1187		457			524
Travel Time (s)	18.0		8.9			7.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	29	306	771	32	294	808
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	306	803	0	294	808
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	

Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

2042 NBP
6/19/2015

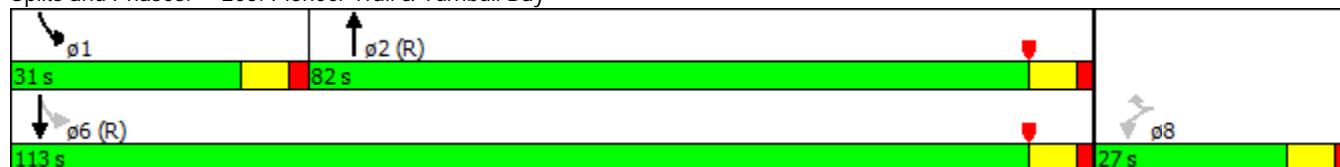


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	23.0	23.0	23.0		11.0	23.0
Total Split (s)	27.0	27.0	82.0		31.0	113.0
Total Split (%)	19.3%	19.3%	58.6%		22.1%	80.7%
Maximum Green (s)	20.0	20.0	75.0		24.0	106.0
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0	7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effect Green (s)	9.6	9.6	94.5		116.4	116.4
Actuated g/C Ratio	0.07	0.07	0.68		0.83	0.83
v/c Ratio	0.24	0.78	0.64		0.59	0.52
Control Delay	64.2	20.4	18.5		16.3	3.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	64.2	20.4	18.5		16.3	3.9
LOS	E	C	B		B	A
Approach Delay	24.1		18.5			7.2
Approach LOS	C		B			A

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 100 (71%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 13.8
 Intersection LOS: B
 Intersection Capacity Utilization 76.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 205: Pioneer Trail & Turnbull Bay



Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	106	623	67	104	597	55	62	86	72	27	94	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.990			0.956			0.938	
Flt Protected		0.993			0.993			0.986			0.994	
Satd. Flow (prot)	0	1829	0	0	1831	0	0	1756	0	0	1737	0
Flt Permitted		0.795			0.781			0.692			0.916	
Satd. Flow (perm)	0	1465	0	0	1440	0	0	1232	0	0	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			7			19			33	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	112	656	71	109	628	58	65	91	76	28	99	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	839	0	0	795	0	0	232	0	0	235	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

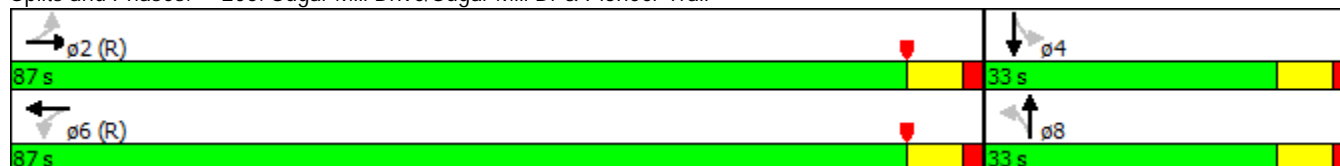


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	87.0	87.0		87.0	87.0		33.0	33.0		33.0	33.0	
Total Split (%)	72.5%	72.5%		72.5%	72.5%		27.5%	27.5%		27.5%	27.5%	
Maximum Green (s)	80.0	80.0		80.0	80.0		26.0	26.0		26.0	26.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		80.0			80.0			26.0			26.0	
Actuated g/C Ratio		0.67			0.67			0.22			0.22	
v/c Ratio		0.86			0.83			0.83			0.63	
Control Delay		26.3			24.0			65.4			45.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.3			24.0			65.4			45.1	
LOS		C			C			E			D	
Approach Delay		26.3			24.0			65.4			45.1	
Approach LOS		C			C			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 31.8
 Intersection LOS: C
 Intersection Capacity Utilization 92.0%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	299	10	7	313	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	11	7	329	6	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	315
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1245
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1245
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	510	-	-	1245	-
HCM Lane V/C Ratio	0.021	-	-	0.006	-
HCM Control Delay (s)	12.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 8.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	164	67	219	172	73	227
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	173	71	231	181	77	239

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	243
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1323
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1323
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	20.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	549	-	-	1323	-
HCM Lane V/C Ratio	0.575	-	-	0.174	-
HCM Control Delay (s)	20.1	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.6	-	-	0.6	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2042 NBP
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	999	32	64	1074	72	22	20	31	84	48	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.874
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.206			0.638		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	384	1863	1583	1188	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			162
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	51	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	320	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

2042 NBP
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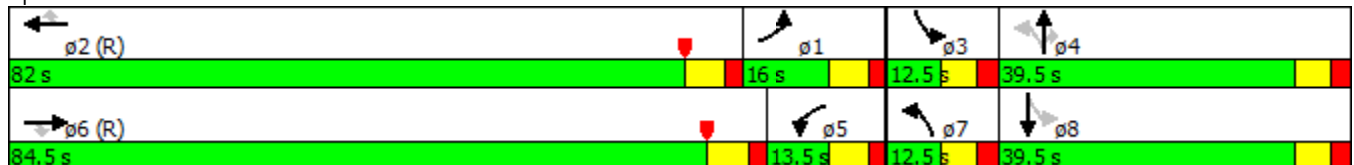


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	16.0	84.5	84.5	13.5	82.0	82.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.7%	56.3%	56.3%	9.0%	54.7%	54.7%	8.3%	26.3%	26.3%	8.3%	26.3%	
Maximum Green (s)	9.5	78.0	78.0	7.0	75.5	75.5	6.0	33.0	33.0	6.0	33.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	9.5	93.4	93.4	7.0	90.9	90.9	24.0	20.0	20.0	26.2	22.6	
Actuated g/C Ratio	0.06	0.62	0.62	0.05	0.61	0.61	0.16	0.13	0.13	0.17	0.15	
v/c Ratio	1.12	0.91	0.03	0.82	1.00	0.08	0.20	0.08	0.10	0.38	0.84	
Control Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5	
LOS	F	D	A	F	E	A	D	D	A	D	D	
Approach Delay		52.9			57.9			28.3			49.3	
Approach LOS		D			E			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 53.9
 Intersection LOS: D
 Intersection Capacity Utilization 97.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	125	833	156	984	1045	1062	137	687	610	1212	1532	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Fr _t		0.976				0.850			0.850		0.981	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4963	0	3433	3539	1583	3433	3539	2787	3433	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				76			173			10
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	132	877	164	1036	1100	1118	144	723	642	1276	1613	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	1041	0	1036	1100	1118	144	723	642	1276	1853	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
 302: Williamson Boulevard & SR 421

2042 NBP
 6/19/2015

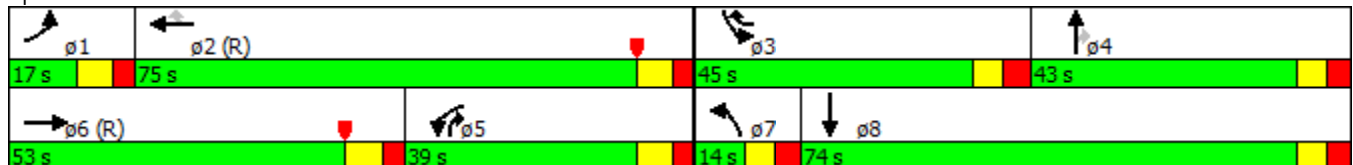


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	17.0	53.0		39.0	75.0	45.0	14.0	43.0	39.0	45.0		74.0
Total Split (%)	9.4%	29.4%		21.7%	41.7%	25.0%	7.8%	23.9%	21.7%	25.0%		41.1%
Maximum Green (s)	9.0	45.0		31.0	67.0	37.0	6.5	35.5	31.0	37.0		66.5
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lead	Lag	Lag	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effect Green (s)	9.0	45.0		31.0	67.0	112.0	6.5	35.5	66.0	37.0		66.5
Actuated g/C Ratio	0.05	0.25		0.17	0.37	0.62	0.04	0.20	0.37	0.21		0.37
v/c Ratio	0.77	0.83		1.75	0.84	1.10	1.17	1.04	0.57	1.81		1.44
Control Delay	111.6	69.3		380.7	59.5	78.1	203.1	112.1	18.4	406.7		241.3
Queue Delay	0.0	0.0		0.0	33.7	0.6	0.0	0.0	4.0	0.0		0.0
Total Delay	111.6	69.3		380.7	93.2	78.7	203.1	112.1	22.4	406.7		241.3
LOS	F	E		F	F	E	F	F	C	F		F
Approach Delay		74.1			179.8			82.6				308.8
Approach LOS		E			F			F				F

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 91 (51%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.81
 Intersection Signal Delay: 194.4
 Intersection LOS: F
 Intersection Capacity Utilization 127.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2326	329	512	2376	0	0	0	0	886	0	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.981										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	4989	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	4989	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2448	346	539	2501	0	0	0	0	933	0	753
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2794	0	539	2501	0	0	0	0	933	0	753
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2042 NBP
 6/19/2015

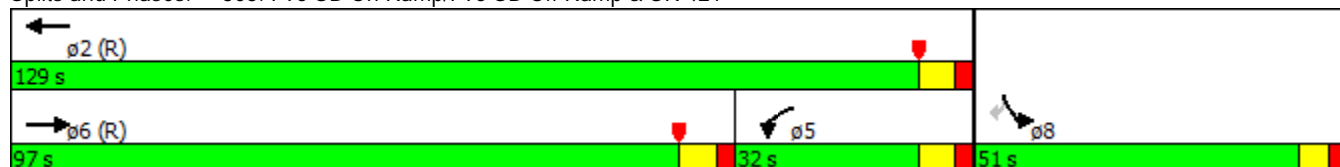


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		97.0		32.0	129.0					51.0		51.0
Total Split (%)		53.9%		17.8%	71.7%					28.3%		28.3%
Maximum Green (s)		89.5		24.5	121.5					43.5		43.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		89.5		24.5	121.5					43.5		43.5
Actuated g/C Ratio		0.50		0.14	0.68					0.24		0.24
v/c Ratio		1.12		1.15	1.05					1.13		1.03
Control Delay		87.4		124.7	39.5					131.2		100.7
Queue Delay		0.4		0.0	5.4					0.0		26.1
Total Delay		87.8		124.7	44.9					131.2		126.7
LOS		F		F	D					F		F
Approach Delay		87.8			59.0							
Approach LOS		F			E							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 5 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 85.5
 Intersection LOS: F
 Intersection Capacity Utilization 110.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2042 NBP
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	551	2661	0	0	2544	756	344	0	374	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						415			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	580	2801	0	0	2678	796	362	0	394	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2042 NBP
 6/19/2015

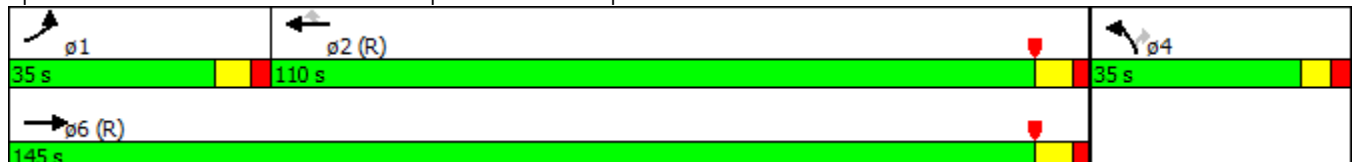


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	35.0	145.0			110.0	110.0	35.0		35.0			
Total Split (%)	19.4%	80.6%			61.1%	61.1%	19.4%		19.4%			
Maximum Green (s)	27.5	137.5			102.5	102.5	28.0		28.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	27.5	137.5			102.5	102.5	28.0		28.0			
Actuated g/C Ratio	0.15	0.76			0.57	0.57	0.16		0.16			
v/c Ratio	1.11	0.72			0.93	0.74	1.32		0.80			
Control Delay	129.6	4.3			21.0	4.3	220.3		72.1			
Queue Delay	0.0	23.1			19.5	5.1	0.7		0.0			
Total Delay	129.6	27.4			40.5	9.3	221.0		72.1			
LOS	F	C			D	A	F		E			
Approach Delay	45.0				33.3							
Approach LOS	D				C							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 32 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.32
 Intersection Signal Delay: 49.4
 Intersection LOS: D
 Intersection Capacity Utilization 110.9%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

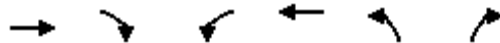
2042 NBP
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2230	805	71	3300	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Frt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		350				100
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2347	847	75	3474	0	400
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2347	847	75	3474	0	400
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2042 NBP
6/19/2015

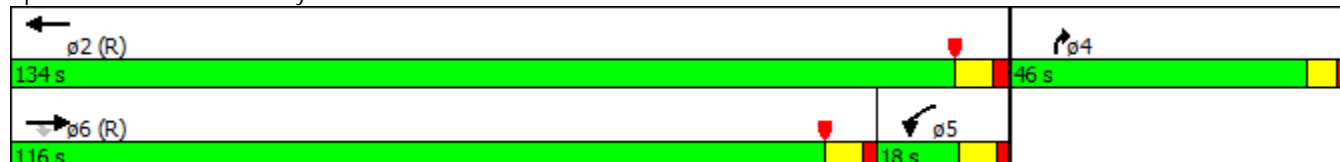


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	116.0	116.0	18.0	134.0		46.0
Total Split (%)	64.4%	64.4%	10.0%	74.4%		25.6%
Maximum Green (s)	109.0	109.0	11.0	126.5		39.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lead	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	110.7	110.7	11.0	128.2		37.8
Actuated g/C Ratio	0.62	0.62	0.06	0.71		0.21
v/c Ratio	0.75	0.76	0.69	0.96		0.96
Control Delay	9.4	7.2	81.3	31.6		86.3
Queue Delay	0.7	0.8	0.0	18.3		0.0
Total Delay	10.1	8.0	81.3	49.9		86.3
LOS	B	A	F	D		F
Approach Delay	9.6			50.5		
Approach LOS	A			D		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 22 (12%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 34.2
 Intersection LOS: C
 Intersection Capacity Utilization 77.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	216	1811	88	257	2188	270	462	63	96	320	143	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.993			0.984				0.850		0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5050	0	1770	5004	0	3433	1863	1583	1770	3337	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5050	0	1770	5004	0	3433	1863	1583	1770	3337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			15				173			64
Link Speed (mph)		50			50			40				40
Link Distance (ft)		1605			1766			596				539
Travel Time (s)		21.9			24.1			10.2				9.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	227	1906	93	271	2303	284	486	66	101	337	151	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	1999	0	271	2587	0	486	66	101	337	243	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2042 NBP
6/19/2015

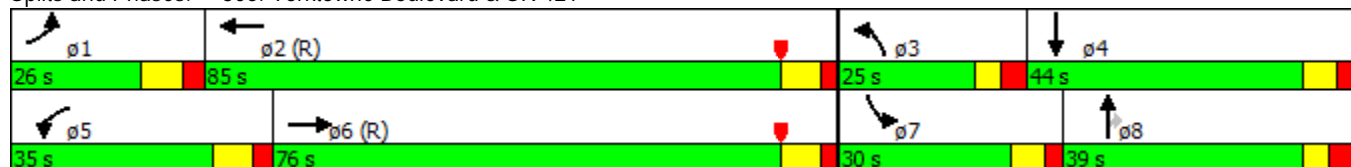


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	26.0	76.0		35.0	85.0		25.0	39.0	39.0	30.0	44.0	
Total Split (%)	14.4%	42.2%		19.4%	47.2%		13.9%	21.7%	21.7%	16.7%	24.4%	
Maximum Green (s)	17.5	68.0		27.0	77.0		18.0	32.0	32.0	23.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	36.5	77.0		37.7	77.7		18.0	12.3	12.3	23.0	17.3	
Actuated g/C Ratio	0.20	0.43		0.21	0.43		0.10	0.07	0.07	0.13	0.10	
v/c Ratio	0.63	0.92		0.73	1.19		1.42	0.52	0.38	1.49	0.64	
Control Delay	89.2	37.0		48.3	135.9		256.8	95.0	4.0	291.5	65.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	37.0		48.3	135.9		256.8	95.0	4.0	291.5	65.2	
LOS	F	D		D	F		F	F	A	F	E	
Approach Delay		42.3			127.6			201.3			196.7	
Approach LOS		D			F			F			F	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	34 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	145
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.49
Intersection Signal Delay:	111.5
Intersection LOS:	F
Intersection Capacity Utilization:	111.7%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2042 NBP
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	521	1478	228	70	1940	299	406	409	81	300	446	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Fr _t		0.980				0.850		0.975				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4984	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4984	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				193		12				255
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	548	1556	240	74	2042	315	427	431	85	316	469	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	548	1796	0	74	2042	315	427	516	0	316	469	473
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2042 NBP
6/19/2015

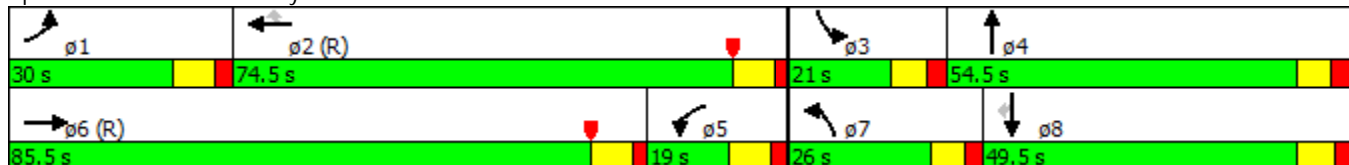


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	30.0	85.5		19.0	74.5	74.5	26.0	54.5		21.0	49.5	49.5
Total Split (%)	16.7%	47.5%		10.6%	41.4%	41.4%	14.4%	30.3%		11.7%	27.5%	27.5%
Maximum Green (s)	22.0	78.0		11.0	67.0	67.0	19.0	47.0		13.5	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	22.0	78.0		11.0	67.0	67.0	19.0	47.0		13.5	42.0	42.0
Actuated g/C Ratio	0.12	0.43		0.06	0.37	0.37	0.11	0.26		0.08	0.23	0.23
v/c Ratio	1.31	0.83		0.69	1.08	0.44	1.18	0.57		1.23	1.08	0.84
Control Delay	189.7	23.8		112.2	98.1	17.6	170.7	59.1		196.1	128.7	43.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	189.7	23.8		112.2	98.1	17.6	170.7	59.1		196.1	128.7	43.7
LOS	F	C		F	F	B	F	E		F	F	D
Approach Delay		62.6			88.1			109.7			113.7	
Approach LOS		E			F			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 93 (52%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.31
 Intersection Signal Delay: 87.1
 Intersection LOS: F
 Intersection Capacity Utilization 112.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2022 B1A
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	443	38	310	918	50	72	287	288	40	219	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3477	0	1752	1845	1568	1752	1808	0
Flt Permitted	0.950			0.950			0.403			0.335		
Satd. Flow (perm)	1752	3505	1568	3400	3477	0	743	1845	1568	618	1808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		7				303		7	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	43	466	40	326	966	53	76	302	303	42	231	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	466	40	326	1019	0	76	302	303	42	267	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	14.0	45.0	45.0	26.0	57.0		39.0	39.0	39.0	39.0	39.0	
Total Split (%)	12.7%	40.9%	40.9%	23.6%	51.8%		35.5%	35.5%	35.5%	35.5%	35.5%	
Maximum Green (s)	7.0	38.0	38.0	19.0	50.0		32.0	32.0	32.0	32.0	32.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	7.4	49.0	49.0	15.6	62.5		24.5	24.5	24.5	24.5	24.5	
Actuated g/C Ratio	0.07	0.45	0.45	0.14	0.57		0.22	0.22	0.22	0.22	0.22	
v/c Ratio	0.37	0.30	0.05	0.68	0.52		0.46	0.74	0.52	0.31	0.66	
Control Delay	58.0	21.9	0.1	60.5	5.9		44.6	50.1	7.0	39.5	44.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	58.0	21.9	0.1	60.5	5.9		44.6	50.1	7.0	39.5	44.9	
LOS	E	C	A	E	A		D	D	A	D	D	
Approach Delay		23.2			19.1			30.3			44.2	
Approach LOS		C			B			C			D	

Intersection Summary

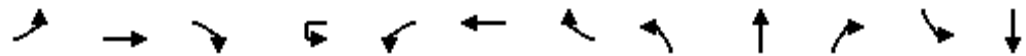
Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 68 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 25.2
 Intersection LOS: C
 Intersection Capacity Utilization 82.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: SR 44 & Williamson Blvd

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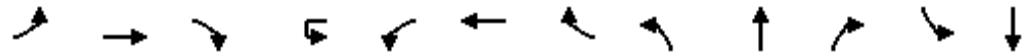
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑		↘		↑↑	↗				↘	
Volume (vph)	38	781	0	53	0	1365	26	0	0	0	104	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		0		515		375	0		0	0	
Storage Lanes	1		0		1		1	0		0	1	
Taper Length (ft)	45				50			25			25	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frnt							0.850					
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1752	3505	0	1752	0	3505	1568	0	0	0	1752	0
Flt Permitted	0.950			0.950							0.950	
Satd. Flow (perm)	1752	3505	0	1752	0	3505	1568	0	0	0	1752	0
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)							105					
Link Speed (mph)		65				65		30				30
Link Distance (ft)		8741				1490		219				404
Travel Time (s)		91.7				15.6		5.0				9.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	40	822	0	56	0	1437	27	0	0	0	109	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	822	0	56	0	1437	27	0	0	0	109	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		28				28		12			12	
Link Offset(ft)		0				0		0			0	
Crosswalk Width(ft)		16				16		16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1		2	1				1	
Detector Template	Left	Thru		Left		Thru	Right				Left	
Leading Detector (ft)	20	100		20		100	20				20	
Trailing Detector (ft)	0	0		0		0	0				0	
Detector 1 Position(ft)	0	0		0		0	0				0	
Detector 1 Size(ft)	20	6		20		6	20				20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Detector 2 Position(ft)		94				94						
Detector 2 Size(ft)		6				6						
Detector 2 Type		Cl+Ex				Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0						
Turn Type	Prot	NA		Prot		NA	Perm				Prot	
Protected Phases	1	6		5		2					8	
Permitted Phases							2					



Lane Group	SBR
Lane Configurations	7
Volume (vph)	33
Ideal Flow (vphpl)	1900
Storage Length (ft)	180
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1568
Flt Permitted	
Satd. Flow (perm)	1568
Right Turn on Red	Yes
Satd. Flow (RTOR)	193
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	3%
Adj. Flow (vph)	35
Shared Lane Traffic (%)	
Lane Group Flow (vph)	35
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	8

Lanes, Volumes, Timings
103: SR 44 & Williamson Blvd

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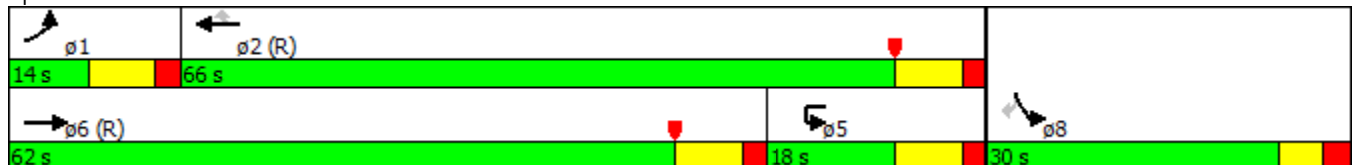


Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	1	6		5		2	2				8	
Switch Phase												
Minimum Initial (s)	5.0	16.0		5.0		16.0	16.0				7.0	
Minimum Split (s)	12.5	23.5		12.5		36.5	36.5				44.1	
Total Split (s)	14.0	62.0		18.0		66.0	66.0				30.0	
Total Split (%)	12.7%	56.4%		16.4%		60.0%	60.0%				27.3%	
Maximum Green (s)	6.5	54.5		10.5		58.5	58.5				23.9	
Yellow Time (s)	5.5	5.5		5.5		5.5	5.5				3.7	
All-Red Time (s)	2.0	2.0		2.0		2.0	2.0				2.4	
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0				0.0	
Total Lost Time (s)	7.5	7.5		7.5		7.5	7.5				6.1	
Lead/Lag	Lead	Lead		Lag		Lag	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes					
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0				3.0	
Recall Mode	None	C-Max		None		C-Max	C-Max				None	
Walk Time (s)						7.0	7.0				7.0	
Flash Dont Walk (s)						22.0	22.0				31.0	
Pedestrian Calls (#/hr)						0	0				0	
Act Effect Green (s)	8.0	69.8		9.5		74.2	74.2				12.2	
Actuated g/C Ratio	0.07	0.63		0.09		0.67	0.67				0.11	
v/c Ratio	0.32	0.37		0.37		0.61	0.02				0.56	
Control Delay	45.2	13.3		45.4		7.6	0.0				57.0	
Queue Delay	0.0	0.0		0.0		0.0	0.0				0.0	
Total Delay	45.2	13.3		45.4		7.6	0.0				57.0	
LOS	D	B		D		A	A				E	
Approach Delay		14.8				8.9						
Approach LOS		B				A						

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 24 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 12.9
 Intersection LOS: B
 Intersection Capacity Utilization 59.4%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 103: SR 44 & Williamson Blvd





Lane Group	SBR
Detector Phase	8
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	44.1
Total Split (s)	30.0
Total Split (%)	27.3%
Maximum Green (s)	23.9
Yellow Time (s)	3.7
All-Red Time (s)	2.4
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	31.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	12.2
Actuated g/C Ratio	0.11
v/c Ratio	0.10
Control Delay	0.6
Queue Delay	0.0
Total Delay	0.6
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	804	174	199	1348	0	0	0	0	0	0	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	846	183	209	1419	0	0	0	0	0	0	154

Major/Minor

	Major1		Major2		Minor2				
Conflicting Flow All	1419	0	0	846	0	0	2261	2684	709
Stage 1	-	-	-	-	-	-	1838	1838	-
Stage 2	-	-	-	-	-	-	423	846	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	471	-	-	780	-	-	34	21	374
Stage 1	-	-	-	-	-	-	110	123	-
Stage 2	-	-	-	-	-	-	626	374	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	471	-	-	780	-	-	25	0	374
Mov Cap-2 Maneuver	-	-	-	-	-	-	68	0	-
Stage 1	-	-	-	-	-	-	81	0	-
Stage 2	-	-	-	-	-	-	626	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	1.5	21.2
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	471	-	-	780	-	-	374
HCM Lane V/C Ratio	-	-	-	0.269	-	-	0.411
HCM Control Delay (s)	0	-	-	11.3	-	-	21.2
HCM Lane LOS	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0	-	-	1.1	-	-	2

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	104	1134	0	0	1203	576	344	0	93	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.138						0.950					
Satd. Flow (perm)	255	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						606			114			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	109	1194	0	0	1266	606	362	0	98	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1194	0	0	1266	606	362	0	98	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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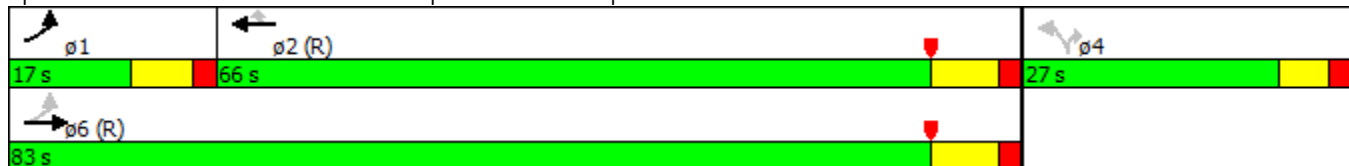


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	17.0	83.0			66.0	66.0	27.0		27.0			
Total Split (%)	15.5%	75.5%			60.0%	60.0%	24.5%		24.5%			
Maximum Green (s)	10.0	75.5			58.5	58.5	20.9		20.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effect Green (s)	79.4	78.9			64.3	64.3	17.5		17.5			
Actuated g/C Ratio	0.72	0.72			0.58	0.58	0.16		0.16			
v/c Ratio	0.38	0.48			0.62	0.52	0.67		0.28			
Control Delay	10.3	4.6			6.4	2.0	49.6		7.5			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	10.3	4.6			6.4	2.0	49.6		7.5			
LOS	B	A			A	A	D		A			
Approach Delay		5.1			5.0							
Approach LOS		A			A							

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	23 (21%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	9.5
Intersection LOS:	A
Intersection Capacity Utilization:	64.2%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↕	↕	↗	↖	↗
Volume (vph)	107	1120	1609	74	66	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.069				0.950	
Satd. Flow (perm)	127	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				63		133
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	113	1179	1694	78	69	179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	1179	1694	78	69	179
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8

Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	1	6	2	2	8	8
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	15.0	87.3	72.3	72.3	22.7	22.7
Total Split (%)	13.6%	79.4%	65.7%	65.7%	20.6%	20.6%
Maximum Green (s)	7.5	79.8	64.8	64.8	16.0	16.0
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	84.7	84.7	69.6	69.6	11.1	11.1
Actuated g/C Ratio	0.77	0.77	0.63	0.63	0.10	0.10
v/c Ratio	0.54	0.44	0.76	0.08	0.39	0.65
Control Delay	20.5	6.0	18.1	3.4	51.7	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	6.0	18.1	3.4	51.7	25.4
LOS	C	A	B	A	D	C
Approach Delay		7.3	17.5		32.7	
Approach LOS		A	B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 100 (91%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 14.6
 Intersection LOS: B
 Intersection Capacity Utilization 73.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	115	27	21	151	151	45	133	20	138	129	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.972			0.925				0.850			0.850
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1811	0	1770	1723	0	0	1840	1583	1770	1863	1583
Flt Permitted	0.346			0.662				0.988		0.950		
Satd. Flow (perm)	645	1811	0	1233	1723	0	0	1840	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			43				227			227
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	121	28	22	159	159	47	140	21	145	136	181
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	149	0	22	318	0	0	187	21	145	136	181
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4
Detector Phase	5	2		1	6		8	8	8	4	4	4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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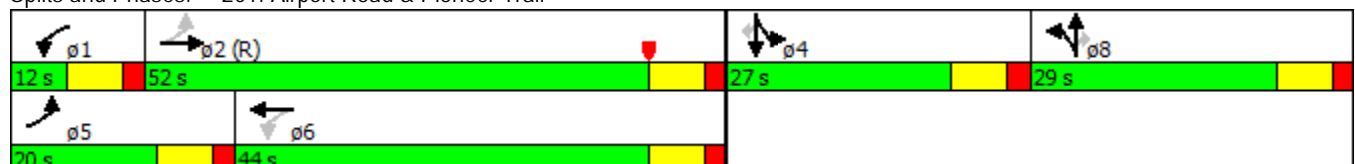


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	52.0		12.0	44.0		29.0	29.0	29.0	27.0	27.0	27.0
Total Split (%)	16.7%	43.3%		10.0%	36.7%		24.2%	24.2%	24.2%	22.5%	22.5%	22.5%
Maximum Green (s)	13.0	45.0		5.0	37.0		22.0	22.0	22.0	20.0	20.0	20.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effct Green (s)	57.0	49.8		43.1	38.1		22.0	22.0	20.0	20.0	20.0	20.0
Actuated g/C Ratio	0.48	0.42		0.36	0.32		0.18	0.18	0.17	0.17	0.17	0.17
v/c Ratio	0.47	0.20		0.05	0.55		0.55	0.04	0.49	0.44	0.40	0.40
Control Delay	22.6	23.0		8.7	15.3		51.7	0.2	51.8	50.0	4.9	4.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	23.0		8.7	15.3		51.7	0.2	51.8	50.0	4.9	4.9
LOS	C	C		A	B		D	A	D	D	A	A
Approach Delay		22.7			14.9		46.5				32.9	
Approach LOS		C			B		D				C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 8 (7%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 27.9 Intersection LOS: C
 Intersection Capacity Utilization 67.9% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 B1A
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	79	215	258	222	142	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Flt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Flt Permitted	0.493				0.950	
Satd. Flow (perm)	918	3539	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				234		55
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	1444		1084	
Travel Time (s)		9.2	21.9		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	226	272	234	149	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	226	272	234	149	55
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 B1A
6/19/2015

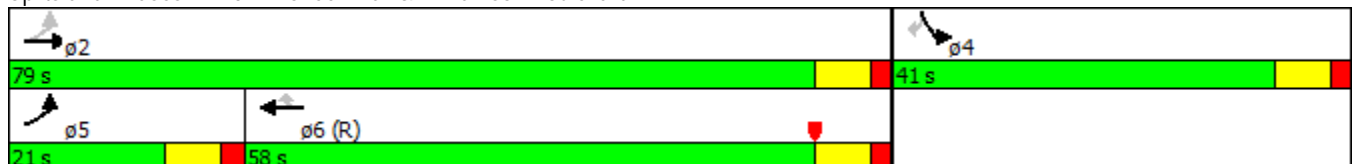


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	21.0	79.0	58.0	58.0	41.0	41.0
Total Split (%)	17.5%	65.8%	48.3%	48.3%	34.2%	34.2%
Maximum Green (s)	14.0	72.0	51.0	51.0	34.0	34.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	Max	Max
Walk Time (s)	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	72.0	72.0	59.8	59.8	34.0	34.0
Actuated g/C Ratio	0.60	0.60	0.50	0.50	0.28	0.28
v/c Ratio	0.14	0.11	0.29	0.26	0.30	0.11
Control Delay	7.2	7.1	16.1	5.6	35.7	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	7.1	16.1	5.6	35.7	8.9
LOS	A	A	B	A	D	A
Approach Delay	7.2		11.3		28.4	
Approach LOS	A		B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 119 (99%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.30
 Intersection Signal Delay: 13.5
 Intersection Capacity Utilization 43.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2022 B1A
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↑↑		↖
Volume (vph)	0	271	86	71	414	0	0	0	0	141	0	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	0		0	200		250
Storage Lanes	0		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.964										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	3412	0	1770	3539	0	0	0	0	3433	0	1583
Flt Permitted				0.487						0.950		
Satd. Flow (perm)	0	3412	0	907	3539	0	0	0	0	3433	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43										100
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1444			1065			541				728
Travel Time (s)		21.9			16.1			12.3				16.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	285	91	75	436	0	0	0	0	148	0	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	376	0	75	436	0	0	0	0	148	0	69
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases				6						4		4
Detector Phase		2		1	6					4		4

Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2022 B1A
 6/19/2015

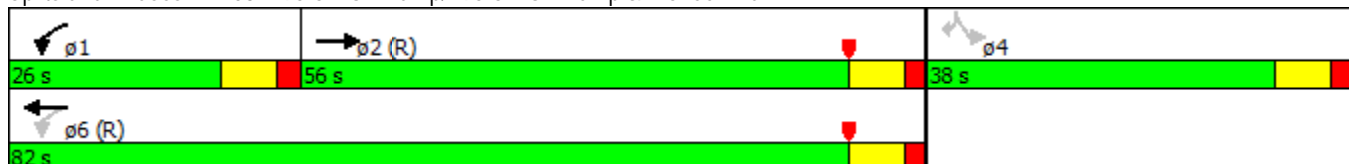


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					5.0		5.0
Minimum Split (s)		23.0		12.0	23.0					23.0		23.0
Total Split (s)		56.0		26.0	82.0					38.0		38.0
Total Split (%)		46.7%		21.7%	68.3%					31.7%		31.7%
Maximum Green (s)		49.0		19.0	75.0					31.0		31.0
Yellow Time (s)		5.0		5.0	5.0					5.0		5.0
All-Red Time (s)		2.0		2.0	2.0					2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.0		7.0	7.0					7.0		7.0
Lead/Lag		Lag			Lead							
Lead-Lag Optimize?		Yes			Yes							
Vehicle Extension (s)		3.0		3.0	3.0					3.0		3.0
Recall Mode		C-Max			None	C-Max				None		None
Walk Time (s)		5.0			5.0					5.0		5.0
Flash Dont Walk (s)		11.0			11.0					11.0		11.0
Pedestrian Calls (#/hr)		0			0					0		0
Act Effect Green (s)		84.4		95.5	95.5					10.5		10.5
Actuated g/C Ratio		0.70		0.80	0.80					0.09		0.09
v/c Ratio		0.16		0.10	0.15					0.49		0.30
Control Delay		0.5		2.3	2.1					57.4		7.1
Queue Delay		0.0		0.0	0.0					0.0		0.0
Total Delay		0.5		2.3	2.1					57.4		7.1
LOS		A		A	A					E		A
Approach Delay		0.5			2.2							
Approach LOS		A			A							

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	94 (78%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	9.3
Intersection LOS:	A
Intersection Capacity Utilization:	41.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail



Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2022 B1A
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	98	314	0	0	337	145	148	0	37	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.955				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3380	0	3433	0	1583	0	0	0
Fl _t Permitted	0.428						0.950					
Satd. Flow (perm)	797	3539	0	0	3380	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					70				100			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1065			327			535				742
Travel Time (s)		16.1			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	103	331	0	0	355	153	156	0	39	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	331	0	0	508	0	156	0	39	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2022 B1A
 6/19/2015

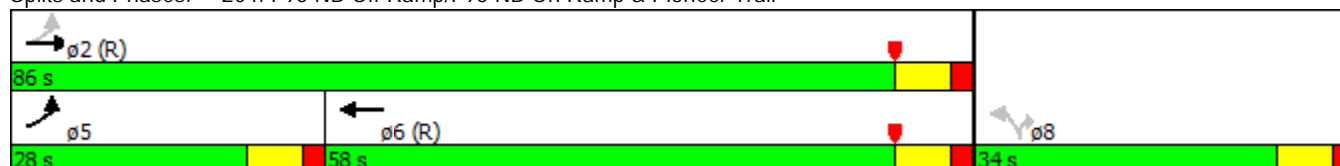


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	28.0	86.0			58.0		34.0		34.0			
Total Split (%)	23.3%	71.7%			48.3%		28.3%		28.3%			
Maximum Green (s)	21.0	79.0			51.0		27.0		27.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	95.2	95.2			81.1		10.8		10.8			
Actuated g/C Ratio	0.79	0.79			0.68		0.09		0.09			
v/c Ratio	0.15	0.12			0.22		0.51		0.17			
Control Delay	1.3	0.9			6.8		57.5		1.5			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	1.3	0.9			6.8		57.5		1.5			
LOS	A	A			A		E		A			
Approach Delay		1.0			6.8							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 10 (8%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 11.4
 Intersection LOS: B
 Intersection Capacity Utilization 41.1%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Intersection

Int Delay, s/veh 4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	45	169	313	39	126	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	178	329	41	133	237

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	852	350	0
Stage 1	350	-	-
Stage 2	502	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	330	693	1188
Stage 1	713	-	-
Stage 2	608	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	293	693	1188
Mov Cap-2 Maneuver	409	-	-
Stage 1	713	-	-
Stage 2	540	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	605	1188
HCM Lane V/C Ratio	-	-	0.372	0.112
HCM Control Delay (s)	-	-	14.4	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.4

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2022 B1A
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	82	208	21	66	223	37	43	54	53	8	127	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.985			0.952			0.959	
Flt Protected		0.987			0.990			0.986			0.998	
Satd. Flow (prot)	0	1822	0	0	1816	0	0	1749	0	0	1783	0
Flt Permitted		0.817			0.865			0.862			0.988	
Satd. Flow (perm)	0	1508	0	0	1587	0	0	1529	0	0	1765	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			10			25			20	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	86	219	22	69	235	39	45	57	56	8	134	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	0	0	343	0	0	158	0	0	204	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	

Lanes, Volumes, Timings
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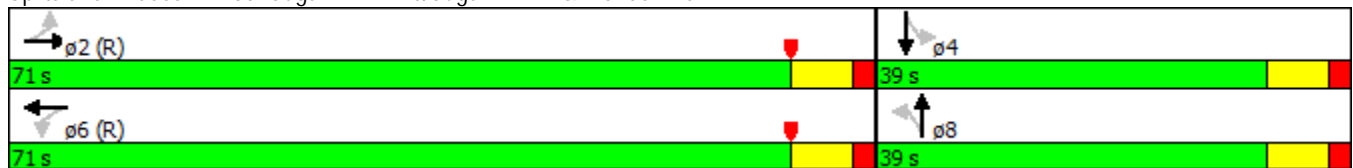


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	71.0	71.0		71.0	71.0		39.0	39.0		39.0	39.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Maximum Green (s)	64.0	64.0		64.0	64.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		64.0			64.0			32.0			32.0	
Actuated g/C Ratio		0.58			0.58			0.29			0.29	
v/c Ratio		0.37			0.37			0.34			0.39	
Control Delay		13.5			13.3			28.1			30.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.5			13.3			28.1			30.6	
LOS		B			B			C			C	
Approach Delay		13.5			13.3			28.1			30.6	
Approach LOS		B			B			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 71 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay: 19.1
 Intersection LOS: B
 Intersection Capacity Utilization 62.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	157	8	2	206	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	8	2	217	8	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	165
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1413
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1413
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	655	-	-	1413	-
HCM Lane V/C Ratio	0.016	-	-	0.001	-
HCM Control Delay (s)	10.6	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	143	43	95	138	41	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	151	45	100	145	43	100

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	196
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1377
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1377
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	697	-	-	1377	-
HCM Lane V/C Ratio	0.205	-	-	0.073	-
HCM Control Delay (s)	11.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	792	8	52	535	97	22	38	35	152	11	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t			0.850			0.850			0.850			0.872
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1624	0
Fl _t Permitted	0.950			0.950			0.705			0.438		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1313	1863	1583	816	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167			68
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	134	834	8	55	563	102	23	40	37	160	12	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	834	8	55	563	102	23	40	37	160	80	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Maximum Green (s)	24.5	66.5	66.5	11.5	53.5	53.5	13.2	33.0	33.0	13.0	32.8	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	16.6	96.6	96.6	10.2	87.5	87.5	15.6	10.4	10.4	25.5	17.7	
Actuated g/C Ratio	0.11	0.64	0.64	0.07	0.58	0.58	0.10	0.07	0.07	0.17	0.12	
v/c Ratio	0.69	0.69	0.01	0.46	0.52	0.10	0.15	0.31	0.14	0.73	0.32	
Control Delay	81.3	24.1	0.0	78.8	22.8	0.2	51.2	73.0	1.1	74.6	21.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.3	24.1	0.0	78.8	22.8	0.2	51.2	73.0	1.1	74.6	21.2	
LOS	F	C	A	E	C	A	D	E	A	E	C	
Approach Delay		31.7			23.8			41.4			56.8	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 32.4 Intersection LOS: C
 Intersection Capacity Utilization 78.9% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	789	96	375	460	505	106	716	668	621	318	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.984				0.850			0.850		0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5004	0	3433	3539	1583	3433	3539	2787	3433	3444	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5004	0	3433	3539	1583	3433	3539	2787	3433	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				85			140			18
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1468			652			802			861	
Travel Time (s)		22.2			9.9			12.2			13.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	156	831	101	395	484	532	112	754	703	654	335	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	932	0	395	484	532	112	754	703	654	408	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			
Detector Phase	1	6		5	2	3	7	4	5	3	8	

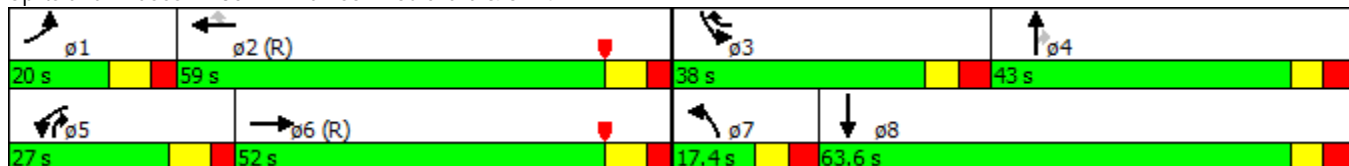


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	20.0	52.0		27.0	59.0	38.0	17.4	43.0	27.0	38.0	63.6	
Total Split (%)	12.5%	32.5%		16.9%	36.9%	23.8%	10.9%	26.9%	16.9%	23.8%	39.8%	
Maximum Green (s)	12.0	44.0		19.0	51.0	30.0	9.9	35.5	19.0	30.0	56.1	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0						7.0	
Flash Dont Walk (s)		36.0			25.0						33.0	
Pedestrian Calls (#/hr)		0			0						0	
Act Effct Green (s)	11.3	44.0		19.0	51.7	89.7	9.3	35.5	62.0	30.0	56.7	
Actuated g/C Ratio	0.07	0.28		0.12	0.32	0.56	0.06	0.22	0.39	0.19	0.35	
v/c Ratio	0.65	0.67		0.97	0.42	0.58	0.56	0.96	0.60	1.02	0.33	
Control Delay	85.2	53.7		106.2	29.7	17.2	84.3	84.8	33.2	102.6	37.1	
Queue Delay	0.0	0.0		0.0	0.0	1.2	0.0	0.0	0.2	0.0	0.0	
Total Delay	85.2	53.7		106.2	29.7	18.4	84.3	84.8	33.4	102.6	37.1	
LOS	F	D		F	C	B	F	F	C	F	D	
Approach Delay		58.2			46.9			61.7			77.5	
Approach LOS		E			D			E			E	

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 16 (10%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 60.2
 Intersection LOS: E
 Intersection Capacity Utilization 91.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	1942	136	228	1099	0	0	0	0	569	0	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Flt		0.990										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	5034	0	3433	3539	0	0	0	0	3433	0	2787
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	5034	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10										201
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2044	143	240	1157	0	0	0	0	599	0	254
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2187	0	240	1157	0	0	0	0	599	0	254
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8
Detector Phase		6		5	2					8		8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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 6/19/2015

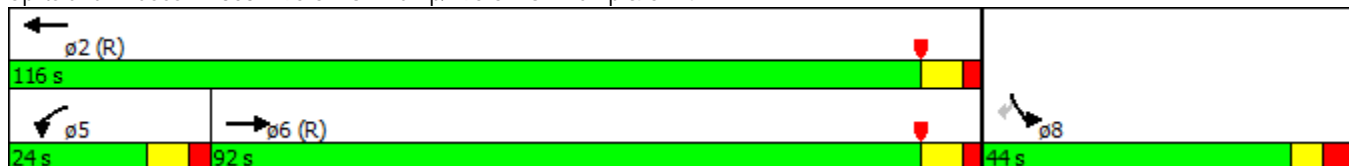


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		92.0		24.0	116.0					44.0		44.0
Total Split (%)		57.5%		15.0%	72.5%					27.5%		27.5%
Maximum Green (s)		84.5		16.5	108.5					36.5		36.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		89.4		15.2	112.2					32.8		32.8
Actuated g/C Ratio		0.56		0.10	0.70					0.20		0.20
v/c Ratio		0.78		0.73	0.47					0.85		0.35
Control Delay		28.3		103.7	5.4					73.3		13.6
Queue Delay		0.4		0.0	0.0					0.0		0.0
Total Delay		28.7		103.7	5.4					73.3		13.6
LOS		C		F	A					E		B
Approach Delay		28.7			22.3							
Approach LOS		C			C							

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 18 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 31.8
 Intersection LOS: C
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	284	2227	0	0	1188	846	139	0	307	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						559			82			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	299	2344	0	0	1251	891	146	0	323	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	2344	0	0	1251	891	146	0	323	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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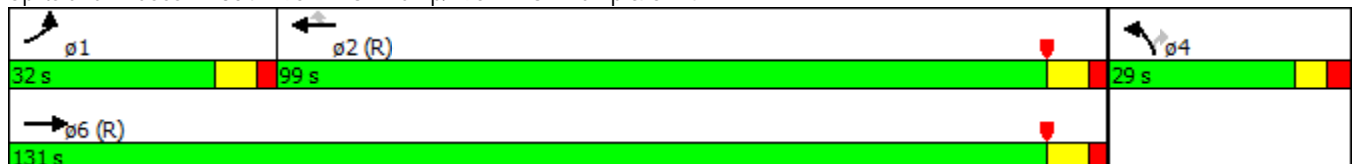


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	32.0	131.0			99.0	99.0	29.0		29.0			
Total Split (%)	20.0%	81.9%			61.9%	61.9%	18.1%		18.1%			
Maximum Green (s)	24.5	123.5			91.5	91.5	22.0		22.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	19.2	126.8			100.1	100.1	18.7		18.7			
Actuated g/C Ratio	0.12	0.79			0.63	0.63	0.12		0.12			
v/c Ratio	0.73	0.58			0.39	0.74	0.71		0.81			
Control Delay	72.7	4.4			3.0	10.1	86.2		67.3			
Queue Delay	0.0	0.2			0.0	0.7	0.0		0.0			
Total Delay	72.7	4.6			3.0	10.8	86.2		67.3			
LOS	E	A			A	B	F		E			
Approach Delay		12.3			6.3							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 17 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 15.3
 Intersection LOS: B
 Intersection Capacity Utilization 87.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 B1A
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	1965	569	24	2034	0	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		284				85
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2068	599	25	2141	0	206
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2068	599	25	2141	0	206
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				
Detector Phase	6	6	5	2		4



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	97.0	97.0	14.0	111.0		49.0
Total Split (%)	60.6%	60.6%	8.8%	69.4%		30.6%
Maximum Green (s)	90.0	90.0	7.0	103.5		42.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	118.9	118.9	7.8	127.9		18.1
Actuated g/C Ratio	0.74	0.74	0.05	0.80		0.11
v/c Ratio	0.55	0.48	0.29	0.53		0.80
Control Delay	8.7	5.0	96.3	2.0		61.8
Queue Delay	0.2	0.4	0.0	0.0		0.0
Total Delay	8.8	5.4	96.3	2.0		61.8
LOS	A	A	F	A		E
Approach Delay	8.1			3.1		
Approach LOS	A			A		

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 43 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 61.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2022 B1A
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	1748	126	96	1302	164	475	55	42	255	32	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.990			0.983				0.850		0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5034	0	1770	4999	0	3433	1863	1583	1770	3107	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5034	0	1770	4999	0	3433	1863	1583	1770	3107	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			17				242		149	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	162	1840	133	101	1371	173	500	58	44	268	34	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	1973	0	101	1544	0	500	58	44	268	183	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			
Detector Phase	1	6		5	2		3	8	8	7	4	

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

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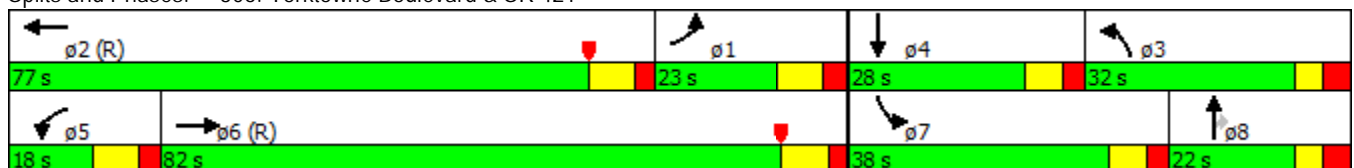


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	23.0	82.0		18.0	77.0		32.0	22.0	22.0	38.0	28.0	
Total Split (%)	14.4%	51.3%		11.3%	48.1%		20.0%	13.8%	13.8%	23.8%	17.5%	
Maximum Green (s)	14.5	74.0		10.0	69.0		25.0	15.0	15.0	31.0	21.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	14.5	76.7		13.1	74.8		29.9	11.7	11.7	31.9	10.3	
Actuated g/C Ratio	0.09	0.48		0.08	0.47		0.19	0.07	0.07	0.20	0.06	
v/c Ratio	1.01	0.82		0.70	0.66		0.78	0.43	0.13	0.76	0.54	
Control Delay	131.3	30.0		78.8	35.4		70.8	80.3	0.8	76.0	23.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	131.3	30.0		78.8	35.4		70.8	80.3	0.8	76.0	23.1	
LOS	F	C		E	D		E	F	A	E	C	
Approach Delay		37.7			38.1			66.6			54.6	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 3 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 43.0 Intersection LOS: D
 Intersection Capacity Utilization 89.4% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑		↖	↑↑↑	↗	↖↗	↑↑		↖↗	↑	↗
Volume (vph)	572	1290	139	72	938	246	281	385	72	198	190	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.985				0.850		0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5009	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5009	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				259		13				308
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	602	1358	146	76	987	259	296	405	76	208	200	308
Shared Lane Traffic (%)												
Lane Group Flow (vph)	602	1504	0	76	987	259	296	481	0	208	200	308
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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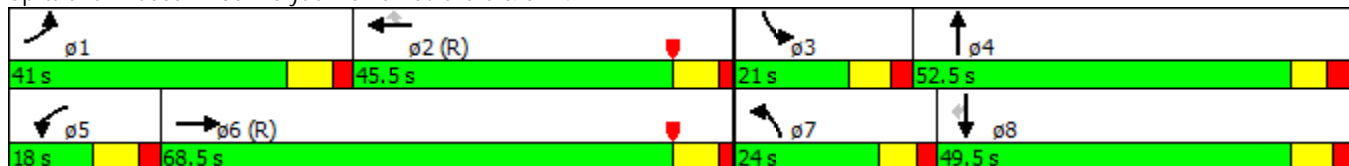


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	41.0	68.5		18.0	45.5	45.5	24.0	52.5		21.0	49.5	49.5
Total Split (%)	25.6%	42.8%		11.3%	28.4%	28.4%	15.0%	32.8%		13.1%	30.9%	30.9%
Maximum Green (s)	33.0	61.0		10.0	38.0	38.0	17.0	45.0		13.5	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	34.5	74.3		13.5	53.3	53.3	16.5	28.7		13.0	25.7	25.7
Actuated g/C Ratio	0.22	0.46		0.08	0.33	0.33	0.10	0.18		0.08	0.16	0.16
v/c Ratio	0.81	0.64		0.51	0.58	0.37	0.84	0.76		0.75	0.67	0.60
Control Delay	54.2	20.7		81.4	47.6	6.5	90.5	68.6		88.7	73.8	10.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	54.2	20.7		81.4	47.6	6.5	90.5	68.6		88.7	73.8	10.6
LOS	D	C		F	D	A	F	E		F	E	B
Approach Delay		30.3			41.5			77.0			50.9	
Approach LOS		C			D			E			D	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	76 (48%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	43.7
Intersection LOS:	D
Intersection Capacity Utilization:	78.4%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	271	86	71	414	0	0	0	0	0	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	285	91	75	436	0	0	0	0	0	0	69

Major/Minor

	Major1			Major2			Minor2		
Conflicting Flow All	436	0	0	376	0	0	728	961	218
Stage 1	-	-	-	-	-	-	585	585	-
Stage 2	-	-	-	-	-	-	143	376	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1120	-	-	1179	-	-	358	255	786
Stage 1	-	-	-	-	-	-	520	496	-
Stage 2	-	-	-	-	-	-	869	615	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1120	-	-	1179	-	-	335	0	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	0	-
Stage 1	-	-	-	-	-	-	487	0	-
Stage 2	-	-	-	-	-	-	869	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	1.2	10
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	1179	-	-	786
HCM Lane V/C Ratio	-	-	-	0.063	-	-	0.088
HCM Control Delay (s)	0	-	-	8.3	-	-	10
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0.3

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	98	314	0	0	337	145	148	0	37	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.955				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3380	0	3433	0	1583	0	0	0
Fl _t Permitted	0.424						0.950					
Satd. Flow (perm)	790	3539	0	0	3380	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					75				109			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		795			327			535			742	
Travel Time (s)		12.0			5.0			12.2			16.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	103	331	0	0	355	153	156	0	39	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	331	0	0	508	0	156	0	39	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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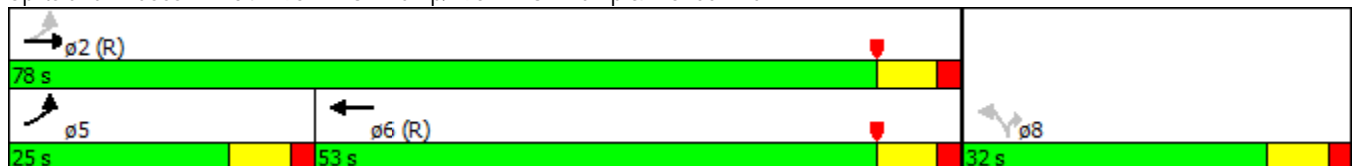


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	25.0	78.0			53.0		32.0		32.0			
Total Split (%)	22.7%	70.9%			48.2%		29.1%		29.1%			
Maximum Green (s)	18.0	71.0			46.0		25.0		25.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	85.7	85.7			71.6		10.3		10.3			
Actuated g/C Ratio	0.78	0.78			0.65		0.09		0.09			
v/c Ratio	0.15	0.12			0.23		0.48		0.16			
Control Delay	3.6	3.2			5.7		52.0		1.4			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	3.6	3.2			5.7		52.0		1.4			
LOS	A	A			A		D		A			
Approach Delay		3.3			5.7							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 11.0
 Intersection LOS: B
 Intersection Capacity Utilization 38.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	558	60	467	1241	68	109	377	432	53	283	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992				0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3477	0	1752	1845	1568	1752	1810	0
Flt Permitted	0.950			0.950			0.310			0.223		
Satd. Flow (perm)	1752	3505	1568	3400	3477	0	572	1845	1568	411	1810	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164		6				413		6	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	587	63	492	1306	72	115	397	455	56	298	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	587	63	492	1378	0	115	397	455	56	342	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

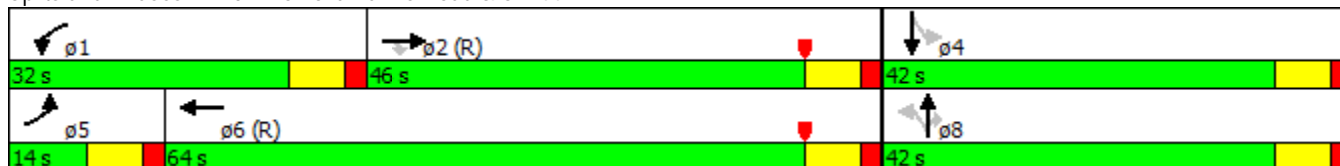


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	14.0	46.0	46.0	32.0	64.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	11.7%	38.3%	38.3%	26.7%	53.3%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	7.0	39.0	39.0	25.0	57.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	7.1	45.8	45.8	21.9	63.1		31.3	31.3	31.3	31.3	31.3	
Actuated g/C Ratio	0.06	0.38	0.38	0.18	0.53		0.26	0.26	0.26	0.26	0.26	
v/c Ratio	0.51	0.44	0.09	0.79	0.75		0.77	0.83	0.64	0.52	0.72	
Control Delay	72.7	30.3	0.2	56.7	27.4		72.9	56.3	9.5	55.5	48.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	72.7	30.3	0.2	56.7	27.4		72.9	56.3	9.5	55.5	48.2	
LOS	E	C	A	E	C		E	E	A	E	D	
Approach Delay		30.8			35.1			36.2			49.2	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 36.0
 Intersection LOS: D
 Intersection Capacity Utilization 96.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	864	152	422	1401	30	438	46	330	121	36	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		250	515		375	250		250	250		180
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.086			0.950			0.950			0.950		
Satd. Flow (perm)	159	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			273			214			245			273
Link Speed (mph)		65		65			30			30		
Link Distance (ft)		8741		1490			520			511		
Travel Time (s)		91.7		15.6			11.8			11.6		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	909	160	444	1475	32	461	48	347	127	38	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	909	160	444	1475	32	461	48	347	127	38	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28		28			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		
Detector 2 Size(ft)		6		6			6			6		
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0
Minimum Split (s)	12.0	23.5	23.5	12.0	36.5	36.5	12.0	36.5	36.5	12.0	23.5	23.5
Total Split (s)	12.0	52.5	52.5	27.0	67.5	67.5	27.0	36.5	36.5	14.0	23.5	23.5
Total Split (%)	9.2%	40.4%	40.4%	20.8%	51.9%	51.9%	20.8%	28.1%	28.1%	10.8%	18.1%	18.1%
Maximum Green (s)	5.0	45.0	45.0	20.0	60.0	60.0	20.0	29.0	29.0	7.0	16.0	16.0
Yellow Time (s)	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0		7.0	7.0			
Flash Dont Walk (s)					22.0	22.0		22.0	22.0			
Pedestrian Calls (#/hr)					0	0		0	0			
Act Effct Green (s)	53.7	48.1	48.1	19.5	65.0	65.0	22.1	26.4	26.4	7.0	16.0	16.0
Actuated g/C Ratio	0.41	0.37	0.37	0.15	0.50	0.50	0.17	0.20	0.20	0.05	0.12	0.12
v/c Ratio	0.36	0.70	0.21	0.87	0.84	0.04	0.80	0.13	0.68	0.69	0.17	0.09
Control Delay	22.2	32.8	0.6	62.8	27.7	0.1	63.7	41.5	20.8	80.2	53.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	32.8	0.6	62.8	27.7	0.1	63.7	41.5	20.8	80.2	53.2	0.4
LOS	C	C	A	E	C	A	E	D	C	F	D	A
Approach Delay		27.8			35.2			45.1			59.3	
Approach LOS		C			D			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 101 (78%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 36.4 Intersection LOS: D
 Intersection Capacity Utilization 82.9% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 103: Williamson Blvd & SR 44



Intersection												
Int Delay, s/veh	6.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1080	280	200	1623	0	0	0	0	0	0	270
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1137	295	211	1708	0	0	0	0	0	0	284

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	1708	0	0	1137	0	0	2697	3266	854
Stage 1	-	-	-	-	-	-	2129	2129	-
Stage 2	-	-	-	-	-	-	568	1137	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	364	-	-	604	-	-	17	9	300
Stage 1	-	-	-	-	-	-	76	88	-
Stage 2	-	-	-	-	-	-	528	273	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	364	-	-	604	-	-	11	0	300
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	0	-
Stage 1	-	-	-	-	-	-	49	0	-
Stage 2	-	-	-	-	-	-	528	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	77.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	-	-	604	-	-	300
HCM Lane V/C Ratio	-	-	-	0.349	-	-	0.947
HCM Control Delay (s)	0	-	-	14.1	-	-	77.7
HCM Lane LOS	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0	-	-	1.6	-	-	9.4

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	192	1342	0	0	1345	659	478	0	86	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.092						0.950					
Satd. Flow (perm)	170	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						687			97			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	202	1413	0	0	1416	694	503	0	91	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	202	1413	0	0	1416	694	503	0	91	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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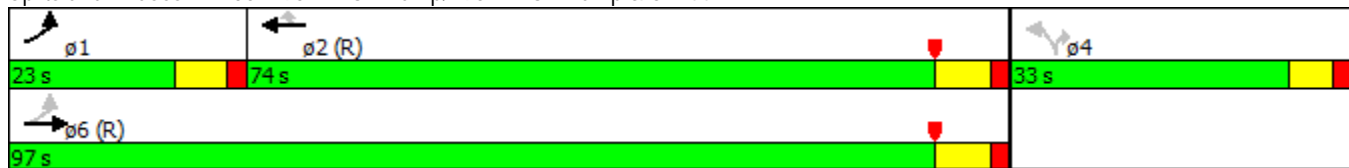


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	23.0	97.0			74.0	74.0	33.0		33.0			
Total Split (%)	17.7%	74.6%			56.9%	56.9%	25.4%		25.4%			
Maximum Green (s)	16.0	89.5			66.5	66.5	26.9		26.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effect Green (s)	92.4	91.9			72.1	72.1	24.5		24.5			
Actuated g/C Ratio	0.71	0.71			0.55	0.55	0.19		0.19			
v/c Ratio	0.73	0.57			0.73	0.59	0.79		0.24			
Control Delay	34.1	8.1			10.0	1.8	59.6		8.8			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	34.1	8.1			10.0	1.8	59.6		8.8			
LOS	C	A			A	A	E		A			
Approach Delay		11.4			7.3							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 46 (35%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 14.9
 Intersection LOS: B
 Intersection Capacity Utilization 76.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↙
Volume (vph)	148	1280	1773	100	96	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.047				0.950	
Satd. Flow (perm)	87	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				68		155
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	156	1347	1866	105	101	243
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	1347	1866	105	101	243
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	19.2	106.0	86.8	86.8	24.0	24.0
Total Split (%)	14.8%	81.5%	66.8%	66.8%	18.5%	18.5%
Maximum Green (s)	11.7	98.5	79.3	79.3	17.3	17.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	101.9	101.9	83.8	83.8	13.9	13.9
Actuated g/C Ratio	0.78	0.78	0.64	0.64	0.11	0.11
v/c Ratio	0.77	0.49	0.83	0.10	0.54	0.79
Control Delay	51.4	6.3	22.7	4.4	65.1	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	6.3	22.7	4.4	65.1	39.7
LOS	D	A	C	A	E	D
Approach Delay	11.0		21.7		47.2	
Approach LOS	B		C		D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 20 (15%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 19.8
 Intersection LOS: B
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	292	198	32	27	215	256	47	159	31	237	150	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.979			0.918				0.850			0.850
Flt Protected	0.950			0.950				0.989		0.950		
Satd. Flow (prot)	1770	1824	0	1770	1710	0	0	1842	1583	1770	3539	1583
Flt Permitted	0.194			0.608				0.989		0.950		
Satd. Flow (perm)	361	1824	0	1133	1710	0	0	1842	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			49				210			284
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	307	208	34	28	226	269	49	167	33	249	158	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	242	0	28	495	0	0	216	33	249	158	284
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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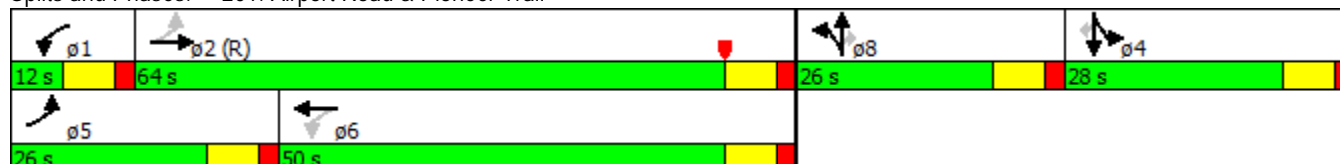


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	26.0	64.0		12.0	50.0		26.0	26.0	26.0	28.0	28.0	28.0
Total Split (%)	20.0%	49.2%		9.2%	38.5%		20.0%	20.0%	20.0%	21.5%	21.5%	21.5%
Maximum Green (s)	19.0	57.0		5.0	43.0		19.0	19.0	19.0	21.0	21.0	21.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		None	None	None	None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	70.6	63.4		51.3	46.2		17.9	17.9	20.5	20.5	20.5	20.5
Actuated g/C Ratio	0.54	0.49		0.39	0.36		0.14	0.14	0.16	0.16	0.16	0.16
v/c Ratio	0.80	0.27		0.06	0.77		0.85	0.08	0.90	0.28	0.58	0.58
Control Delay	34.7	21.6		6.9	17.7		83.1	0.4	86.5	49.6	10.6	10.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	21.6		6.9	17.7		83.1	0.4	86.5	49.6	10.6	10.6
LOS	C	C		A	B		F	A	F	D	B	B
Approach Delay		28.9			17.1			72.1			46.9	
Approach LOS		C			B			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 95
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 37.4 Intersection LOS: D
 Intersection Capacity Utilization 90.6% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	136	345	393	419	272	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Fl _t Permitted	0.346				0.950	
Satd. Flow (perm)	645	3539	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				441		97
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	1444		1084	
Travel Time (s)		9.2	21.9		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	143	363	414	441	286	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	363	414	441	286	97
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 B1A
6/19/2015

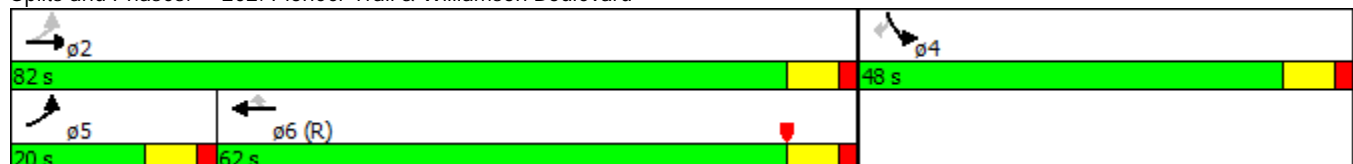


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	82.0	62.0	62.0	48.0	48.0
Total Split (%)	15.4%	63.1%	47.7%	47.7%	36.9%	36.9%
Maximum Green (s)	13.0	75.0	55.0	55.0	41.0	41.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	75.0	75.0	57.7	57.7	41.0	41.0
Actuated g/C Ratio	0.58	0.58	0.44	0.44	0.32	0.32
v/c Ratio	0.31	0.18	0.50	0.47	0.51	0.17
Control Delay	6.3	5.3	26.6	8.7	40.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	5.3	26.6	8.7	40.3	6.7
LOS	A	A	C	A	D	A
Approach Delay		5.6	17.3		31.8	
Approach LOS		A	B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 17.1
 Intersection LOS: B
 Intersection Capacity Utilization 60.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

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 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖↖		↖
Volume (vph)	0	430	187	152	669	0	0	0	0	308	0	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	0		0	0		250
Storage Lanes	0		0	1		0	0		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Flt		0.955										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	3380	0	1770	3539	0	0	0	0	3433	0	1583
Flt Permitted				0.355						0.950		
Satd. Flow (perm)	0	3380	0	661	3539	0	0	0	0	3433	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65										151
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1444			1065			541				728
Travel Time (s)		21.9			16.1			12.3				16.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	453	197	160	704	0	0	0	0	324	0	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	650	0	160	704	0	0	0	0	324	0	151
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases				6						4		4

Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

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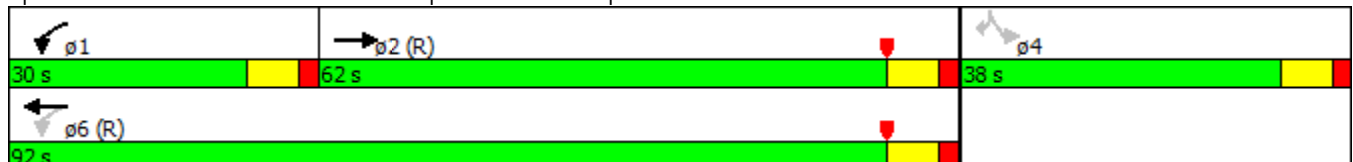


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2		1	6					4		4
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					5.0		5.0
Minimum Split (s)		23.0		12.0	23.0					23.0		23.0
Total Split (s)		62.0		30.0	92.0					38.0		38.0
Total Split (%)		47.7%		23.1%	70.8%					29.2%		29.2%
Maximum Green (s)		55.0		23.0	85.0					31.0		31.0
Yellow Time (s)		5.0		5.0	5.0					5.0		5.0
All-Red Time (s)		2.0		2.0	2.0					2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.0		7.0	7.0					7.0		7.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)		5.0			5.0					5.0		5.0
Flash Dont Walk (s)		11.0			11.0					11.0		11.0
Pedestrian Calls (#/hr)		0			0					0		0
Act Effect Green (s)		82.7		98.4	98.4					17.6		17.6
Actuated g/C Ratio		0.64		0.76	0.76					0.14		0.14
v/c Ratio		0.30		0.28	0.26					0.70		0.44
Control Delay		4.7		2.7	1.6					61.7		11.4
Queue Delay		0.0		0.0	0.0					0.0		0.0
Total Delay		4.7		2.7	1.6					61.7		11.4
LOS		A		A	A					E		B
Approach Delay		4.7			1.8							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 13.3
 Intersection LOS: B
 Intersection Capacity Utilization 62.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail



Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	528	0	0	503	315	318	0	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.942				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3334	0	3433	0	1583	0	0	0
Fl _t Permitted	0.267						0.950					
Satd. Flow (perm)	497	3539	0	0	3334	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					135				92			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1065			327			535				742
Travel Time (s)		16.1			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	221	556	0	0	529	332	335	0	85	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	221	556	0	0	861	0	335	0	85	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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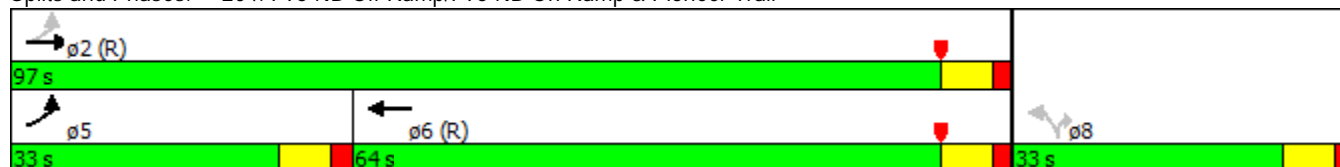


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6		8		8			
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	33.0	97.0			64.0		33.0		33.0			
Total Split (%)	25.4%	74.6%			49.2%		25.4%		25.4%			
Maximum Green (s)	26.0	90.0			57.0		26.0		26.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	98.1	98.1			80.9		17.9		17.9			
Actuated g/C Ratio	0.75	0.75			0.62		0.14		0.14			
v/c Ratio	0.47	0.21			0.41		0.71		0.29			
Control Delay	10.0	4.0			11.5		61.9		10.4			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	10.0	4.0			11.5		61.9		10.4			
LOS	B	A			B		E		B			
Approach Delay		5.7			11.5							
Approach LOS		A			B							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 56 (43%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 17.5
 Intersection LOS: B
 Intersection Capacity Utilization 62.2%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Intersection

Int Delay, s/veh 10.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	51	286	532	44	195	414
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	301	560	46	205	436

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1429	583	0
Stage 1	583	-	-
Stage 2	846	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	149	512	972
Stage 1	558	-	-
Stage 2	421	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	118	512	972
Mov Cap-2 Maneuver	239	-	-
Stage 1	558	-	-
Stage 2	332	-	-

Approach	WB	NB	SB
HCM Control Delay, s	40.2	0	3.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	437	972
HCM Lane V/C Ratio	-	-	0.812	0.211
HCM Control Delay (s)	-	-	40.2	9.7
HCM Lane LOS	-	-	E	A
HCM 95th %tile Q(veh)	-	-	7.5	0.8

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	131	338	44	68	405	38	54	56	58	9	143	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.990			0.953			0.959	
Flt Protected		0.987			0.993			0.984			0.998	
Satd. Flow (prot)	0	1816	0	0	1831	0	0	1747	0	0	1783	0
Flt Permitted		0.752			0.867			0.608			0.985	
Satd. Flow (perm)	0	1384	0	0	1599	0	0	1079	0	0	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			7			23			18	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	138	356	46	72	426	40	57	59	61	9	151	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	540	0	0	538	0	0	177	0	0	229	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	77.0	77.0		77.0	77.0		33.0	33.0		33.0	33.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	70.0	70.0		70.0	70.0		26.0	26.0		26.0	26.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		76.4			76.4			19.6			19.6	
Actuated g/C Ratio		0.69			0.69			0.18			0.18	
v/c Ratio		0.56			0.48			0.84			0.70	
Control Delay		11.9			10.1			68.8			50.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.9			10.1			68.8			50.1	
LOS		B			B			E			D	
Approach Delay		11.9			10.1			68.8			50.1	
Approach LOS		B			B			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 23.9
 Intersection LOS: C
 Intersection Capacity Utilization 90.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	231	8	2	328	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	8	2	345	9	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	243
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1323
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1323
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	506	-	-	1323	-
HCM Lane V/C Ratio	0.023	-	-	0.002	-
HCM Control Delay (s)	12.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	201	57	156	233	74	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	212	60	164	245	78	166

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	272
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1291
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1291
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	518	-	-	1291	-
HCM Lane V/C Ratio	0.471	-	-	0.127	-
HCM Control Delay (s)	18	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.5	-	-	0.4	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	855	10	64	570	123	23	47	42	180	12	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.873	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1626	0
Flt Permitted	0.950			0.950			0.702			0.439		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1308	1863	1583	818	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167			72
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	135	900	11	67	600	129	24	49	44	189	13	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	900	11	67	600	129	24	49	44	189	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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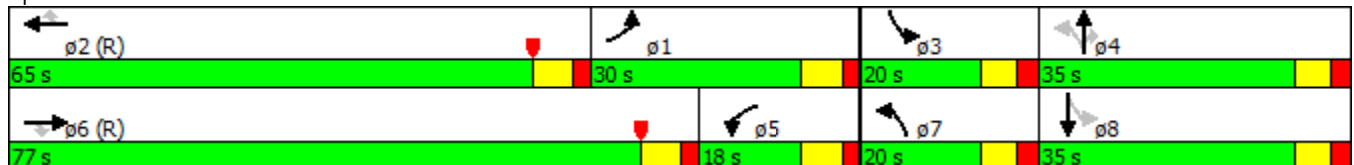


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	30.0	77.0	77.0	18.0	65.0	65.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	20.0%	51.3%	51.3%	12.0%	43.3%	43.3%	13.3%	23.3%	23.3%	13.3%	23.3%	
Maximum Green (s)	23.5	70.5	70.5	11.5	58.5	58.5	13.5	28.5	28.5	13.5	28.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	20.4	95.1	95.1	10.1	82.1	82.1	16.0	10.7	10.7	27.4	19.2	
Actuated g/C Ratio	0.14	0.63	0.63	0.07	0.55	0.55	0.11	0.07	0.07	0.18	0.13	
v/c Ratio	0.56	0.76	0.01	0.57	0.59	0.14	0.15	0.37	0.16	0.79	0.31	
Control Delay	69.1	27.8	0.0	86.1	27.7	1.3	50.1	74.3	1.3	78.6	20.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.1	27.8	0.0	86.1	27.7	1.3	50.1	74.3	1.3	78.6	20.4	
LOS	E	C	A	F	C	A	D	E	A	E	C	
Approach Delay		32.8			28.4			41.9			60.5	
Approach LOS		C			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 31 (21%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 35.1
 Intersection LOS: D
 Intersection Capacity Utilization 83.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	238	771	115	379	478	812	128	1154	818	921	526	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.981				0.850			0.850		0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4989	0	3433	3539	1583	3433	3539	2787	3433	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4989	0	3433	3539	1583	3433	3539	2787	3433	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				76			124			16
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	251	812	121	399	503	855	135	1215	861	969	554	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	933	0	399	503	855	135	1215	861	969	667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3		8
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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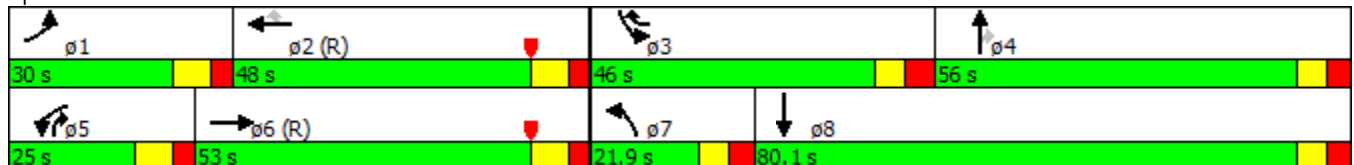


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	30.0	53.0		25.0	48.0	46.0	21.9	56.0	25.0	46.0		80.1
Total Split (%)	16.7%	29.4%		13.9%	26.7%	25.6%	12.2%	31.1%	13.9%	25.6%		44.5%
Maximum Green (s)	22.0	45.0		17.0	40.0	38.0	14.4	48.5	17.0	38.0		72.6
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effct Green (s)	18.2	45.0		17.0	43.8	89.8	12.1	48.5	73.0	38.0		74.9
Actuated g/C Ratio	0.10	0.25		0.09	0.24	0.50	0.07	0.27	0.41	0.21		0.42
v/c Ratio	0.73	0.74		1.23	0.58	1.03	0.58	1.27	0.72	1.34		0.46
Control Delay	90.6	65.3		183.2	68.8	77.3	91.7	182.5	41.8	212.5		38.5
Queue Delay	0.0	0.5		0.0	0.0	0.4	0.0	0.0	0.1	5.0		0.0
Total Delay	90.6	65.8		183.2	68.8	77.7	91.7	182.5	41.8	217.5		38.5
LOS	F	E		F	E	E	F	F	D	F		D
Approach Delay		71.1			99.1			122.2				144.5
Approach LOS		E			F			F				F

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 71 (39%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay: 112.7
 Intersection LOS: F
 Intersection Capacity Utilization 112.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2317	193	252	1360	0	0	0	0	582	0	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.988										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5024	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5024	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12										127
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2439	203	265	1432	0	0	0	0	613	0	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2642	0	265	1432	0	0	0	0	613	0	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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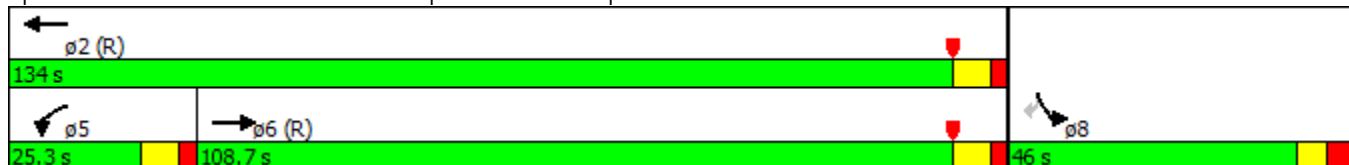


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		108.7		25.3	134.0					46.0		46.0
Total Split (%)		60.4%		14.1%	74.4%					25.6%		25.6%
Maximum Green (s)		101.2		17.8	126.5					38.5		38.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		104.2		17.1	128.9					36.1		36.1
Actuated g/C Ratio		0.58		0.10	0.72					0.20		0.20
v/c Ratio		0.91		0.81	0.57					0.89		0.49
Control Delay		26.6		108.7	10.1					85.7		40.3
Queue Delay		45.8		0.0	0.0					0.0		0.2
Total Delay		72.5		108.7	10.1					85.7		40.5
LOS		E		F	B					F		D
Approach Delay		72.5			25.5							
Approach LOS		E			C							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 164 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 56.9
 Intersection LOS: E
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	314	2585	0	0	1414	852	198	0	347	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						628			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	331	2721	0	0	1488	897	208	0	365	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	331	2721	0	0	1488	897	208	0	365	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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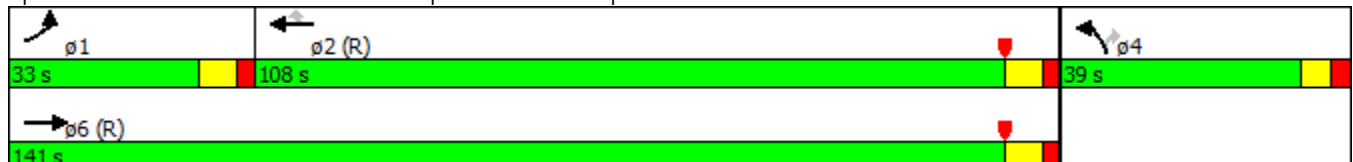


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	33.0	141.0			108.0	108.0	39.0		39.0			
Total Split (%)	18.3%	78.3%			60.0%	60.0%	21.7%		21.7%			
Maximum Green (s)	25.5	133.5			100.5	100.5	32.0		32.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	22.1	139.7			110.1	110.1	25.8		25.8			
Actuated g/C Ratio	0.12	0.78			0.61	0.61	0.14		0.14			
v/c Ratio	0.79	0.69			0.48	0.74	0.82		0.79			
Control Delay	96.0	5.9			5.7	7.3	99.0		71.6			
Queue Delay	0.0	0.3			0.1	2.4	0.0		0.0			
Total Delay	96.0	6.3			5.8	9.7	99.0		71.6			
LOS	F	A			A	A	F		E			
Approach Delay		16.0			7.3							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 172 (96%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 18.8
 Intersection LOS: B
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2297	635	26	2266	0	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Frt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		247				73
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2418	668	27	2385	0	347
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2418	668	27	2385	0	347
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	110.0	110.0	14.0	124.0		56.0
Total Split (%)	61.1%	61.1%	7.8%	68.9%		31.1%
Maximum Green (s)	103.0	103.0	7.0	116.5		49.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	117.1	117.1	7.5	128.6		37.4
Actuated g/C Ratio	0.65	0.65	0.04	0.71		0.21
v/c Ratio	0.73	0.60	0.37	0.66		0.89
Control Delay	14.3	6.8	91.6	13.2		77.5
Queue Delay	0.3	0.5	0.0	0.0		0.0
Total Delay	14.6	7.3	91.6	13.2		77.5
LOS	B	A	F	B		E
Approach Delay	13.0			14.1		
Approach LOS	B			B		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 179 (99%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 17.3
 Intersection LOS: B
 Intersection Capacity Utilization 76.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖↖	↑	↖	↖	↖↖	
Volume (vph)	167	2158	146	173	1441	247	543	63	49	296	33	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.990			0.978				0.850		0.876	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5034	0	1770	4973	0	3433	1863	1583	1770	3100	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5034	0	1770	4973	0	3433	1863	1583	1770	3100	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			22				164		155	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	176	2272	154	182	1517	260	572	66	52	312	35	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	2426	0	182	1777	0	572	66	52	312	204	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

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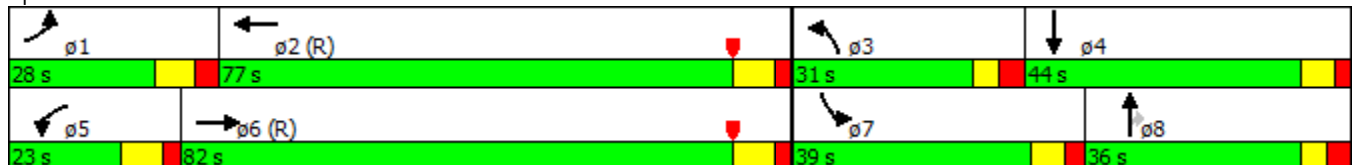


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	28.0	82.0		23.0	77.0		31.0	36.0	36.0	39.0	44.0	
Total Split (%)	15.6%	45.6%		12.8%	42.8%		17.2%	20.0%	20.0%	21.7%	24.4%	
Maximum Green (s)	19.5	74.0		15.0	69.0		24.0	29.0	29.0	32.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	25.1	75.3		30.4	80.1		24.0	12.3	12.3	32.0	20.3	
Actuated g/C Ratio	0.14	0.42		0.17	0.44		0.13	0.07	0.07	0.18	0.11	
v/c Ratio	0.72	1.15		0.61	0.80		1.25	0.52	0.20	0.99	0.42	
Control Delay	98.3	109.2		58.5	50.6		189.5	95.0	1.7	120.9	22.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	98.3	109.2		58.5	50.6		189.5	95.0	1.7	120.9	22.1	
LOS	F	F		E	D		F	F	A	F	C	
Approach Delay		108.5			51.3			166.3			81.8	
Approach LOS		F			D			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 157 (87%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay: 93.6
 Intersection LOS: F
 Intersection Capacity Utilization 104.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	592	1658	171	76	1145	299	336	455	88	225	215	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.986				0.850		0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5014	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5014	0	1770	5085	1583	3433	3454	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				251		12				315
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	623	1745	180	80	1205	315	354	479	93	237	226	315
Shared Lane Traffic (%)												
Lane Group Flow (vph)	623	1925	0	80	1205	315	354	572	0	237	226	315
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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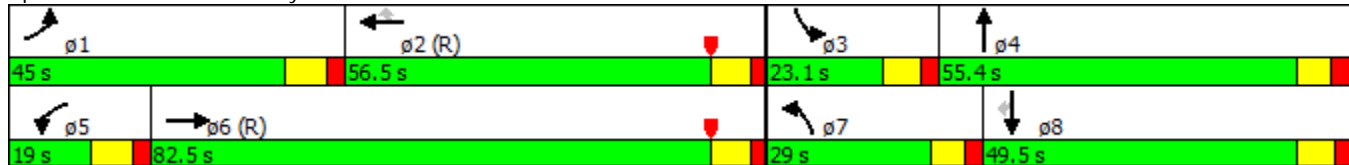


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	45.0	82.5		19.0	56.5	56.5	29.0	55.4		23.1	49.5	49.5
Total Split (%)	25.0%	45.8%		10.6%	31.4%	31.4%	16.1%	30.8%		12.8%	27.5%	27.5%
Maximum Green (s)	37.0	75.0		11.0	49.0	49.0	22.0	47.9		15.6	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	38.3	83.9		14.0	59.5	59.5	21.3	36.5		15.2	30.8	30.8
Actuated g/C Ratio	0.21	0.47		0.08	0.33	0.33	0.12	0.20		0.08	0.17	0.17
v/c Ratio	0.85	0.82		0.58	0.72	0.46	0.87	0.81		0.82	0.71	0.59
Control Delay	42.2	38.8		97.1	57.2	13.6	99.2	76.0		102.8	82.4	10.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	42.2	38.8		97.1	57.2	13.6	99.2	76.0		102.8	82.4	10.4
LOS	D	D		F	E	B	F	E		F	F	B
Approach Delay		39.6			50.6			84.8			59.5	
Approach LOS		D			D			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 58 (32%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 52.4
 Intersection LOS: D
 Intersection Capacity Utilization 87.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Intersection												
Int Delay, s/veh	2											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	430	187	152	669	0	0	0	0	0	0	143
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	453	197	160	704	0	0	0	0	0	0	151

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	704	0	0	649	0	0	1250	1673	352
Stage 1	-	-	-	-	-	-	1024	1024	-
Stage 2	-	-	-	-	-	-	226	649	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	890	-	-	933	-	-	165	95	644
Stage 1	-	-	-	-	-	-	307	311	-
Stage 2	-	-	-	-	-	-	790	464	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	890	-	-	933	-	-	137	0	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	0	-
Stage 1	-	-	-	-	-	-	254	0	-
Stage 2	-	-	-	-	-	-	790	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.8	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	890	-	-	933	-	-	644
HCM Lane V/C Ratio	-	-	-	0.171	-	-	0.234
HCM Control Delay (s)	0	-	-	9.7	-	-	12.3
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.6	-	-	0.9

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	528	0	0	503	315	318	0	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.942				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3334	0	3433	0	1583	0	0	0
Fl _t Permitted	0.267						0.950					
Satd. Flow (perm)	497	3539	0	0	3334	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					135				92			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		795			327			535				742
Travel Time (s)		12.0			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	221	556	0	0	529	332	335	0	85	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	221	556	0	0	861	0	335	0	85	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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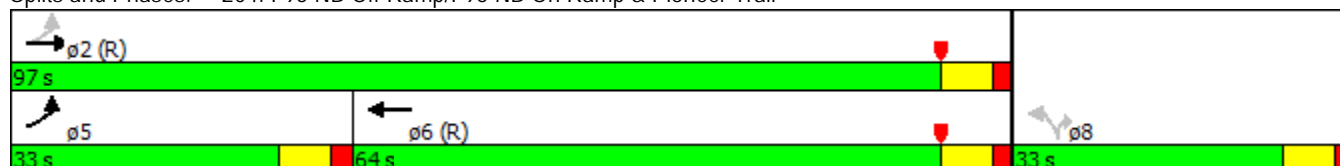


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	33.0	97.0			64.0		33.0		33.0			
Total Split (%)	25.4%	74.6%			49.2%		25.4%		25.4%			
Maximum Green (s)	26.0	90.0			57.0		26.0		26.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	98.1	98.1			80.9		17.9		17.9			
Actuated g/C Ratio	0.75	0.75			0.62		0.14		0.14			
v/c Ratio	0.47	0.21			0.41		0.71		0.29			
Control Delay	6.3	3.2			11.5		61.9		10.4			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	6.3	3.2			11.5		61.9		10.4			
LOS	A	A			B		E		B			
Approach Delay		4.1			11.5							
Approach LOS		A			B							

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	15 (12%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	59.7%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2042 B1A
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	740	93	598	1433	95	162	480	551	72	362	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3473	0	1752	1845	1568	1752	1806	0
Flt Permitted	0.950			0.950			0.103			0.121		
Satd. Flow (perm)	1752	3505	1568	3400	3473	0	190	1845	1568	223	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140		6				418		6	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	72	779	98	629	1508	100	171	505	580	76	381	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	779	98	629	1608	0	171	505	580	76	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		3	8	8	7	4	

Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

2042 B1A
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	1078	142	528	1777	183	333	496	360	182	143	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		250	515		375	250		250	250		180
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.084			0.950			0.950			0.950		
Satd. Flow (perm)	155	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			149			242			196
Link Speed (mph)		65		65			30			35		
Link Distance (ft)		8741		1490			520			805		
Travel Time (s)		91.7		15.6			11.8			15.7		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	135	1135	149	556	1871	193	351	522	379	192	151	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	1135	149	556	1871	193	351	522	379	192	151	106
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28		28			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		
Detector 2 Size(ft)		6		6			6			6		
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4

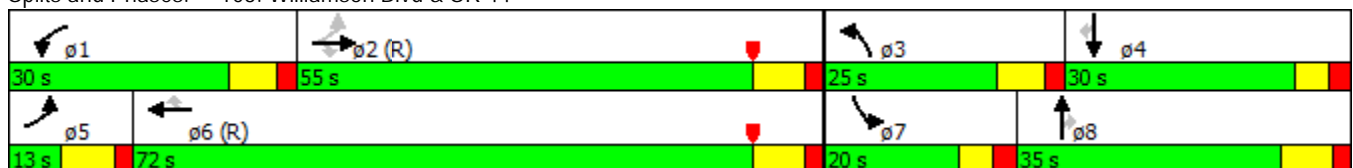


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0	7.0	7.0	7.0
Minimum Split (s)	12.5	23.5	23.5	12.0	36.5	36.5	12.0	36.5	36.5	13.1	44.1	44.1
Total Split (s)	13.0	55.0	55.0	30.0	72.0	72.0	25.0	35.0	35.0	20.0	30.0	30.0
Total Split (%)	9.3%	39.3%	39.3%	21.4%	51.4%	51.4%	17.9%	25.0%	25.0%	14.3%	21.4%	21.4%
Maximum Green (s)	5.5	47.5	47.5	23.0	64.5	64.5	18.0	27.5	27.5	13.9	23.9	23.9
Yellow Time (s)	5.5	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	3.7	3.7	3.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					22.0	22.0		22.0	22.0		31.0	31.0
Pedestrian Calls (#/hr)					0	0		0	0		0	0
Act Effct Green (s)	53.0	47.5	47.5	23.0	64.5	64.5	17.4	28.9	28.9	12.5	24.5	24.5
Actuated g/C Ratio	0.38	0.34	0.34	0.16	0.46	0.46	0.12	0.21	0.21	0.09	0.18	0.18
v/c Ratio	1.12	0.95	0.23	1.00	1.16	0.24	0.83	1.37	0.73	0.64	0.47	0.24
Control Delay	148.6	40.1	1.6	78.9	100.1	2.1	76.8	223.8	28.0	73.7	58.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	148.6	40.1	1.6	78.9	100.1	2.1	76.8	223.8	28.0	73.7	58.1	5.6
LOS	F	D	A	E	F	A	E	F	C	E	E	A
Approach Delay		46.4			88.4			123.3			52.4	
Approach LOS		D			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 112 (80%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.37
 Intersection Signal Delay: 82.8
 Intersection Capacity Utilization 112.0%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 103: Williamson Blvd & SR 44



Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑							↑
Volume (vph)	0	1308	377	200	2134	0	0	0	0	0	0	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	255		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		1
Taper Length (ft)	0			150			0			0		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt			0.850									0.865
Flt Protected				0.950								
Satd. Flow (prot)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Flt Permitted				0.950								
Satd. Flow (perm)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			377									86
Link Speed (mph)		65			65			35			35	
Link Distance (ft)		1490			470			569			611	
Travel Time (s)		15.6			4.9			11.1			11.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1377	397	211	2246	0	0	0	0	0	0	435
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1377	397	211	2246	0	0	0	0	0	0	435
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		38			30			0			0	
Link Offset(ft)		0			0			-60			30	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2							1
Detector Template		Thru	Right	Left	Thru							Right
Leading Detector (ft)		100	20	20	100							20
Trailing Detector (ft)		0	0	0	0							0
Detector 1 Position(ft)		0	0	0	0							0
Detector 1 Size(ft)		6	20	20	6							20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex							Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0							0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Detector Phase		2	2	1	6							4

Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

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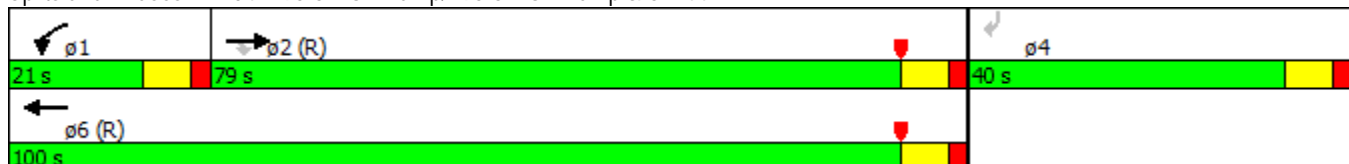


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0							4.0
Minimum Split (s)		23.0	23.0	11.0	23.0							23.0
Total Split (s)		79.0	79.0	21.0	100.0							40.0
Total Split (%)		56.4%	56.4%	15.0%	71.4%							28.6%
Maximum Green (s)		72.0	72.0	14.0	93.0							33.0
Yellow Time (s)		5.0	5.0	5.0	5.0							5.0
All-Red Time (s)		2.0	2.0	2.0	2.0							2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0							7.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Recall Mode		C-Max	C-Max	None	C-Max							None
Walk Time (s)		5.0	5.0		5.0							5.0
Flash Dont Walk (s)		11.0	11.0		11.0							11.0
Pedestrian Calls (#/hr)		0	0		0							0
Act Effect Green (s)		73.1	73.1	12.9	93.0							33.0
Actuated g/C Ratio		0.52	0.52	0.09	0.66							0.24
v/c Ratio		0.75	0.40	0.67	0.96							0.99
Control Delay		41.3	13.4	69.6	18.3							82.0
Queue Delay		0.0	0.0	0.0	4.1							0.0
Total Delay		41.3	13.4	69.6	22.4							82.0
LOS		D	B	E	C							F
Approach Delay		35.1			26.5							
Approach LOS		D			C							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 97 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 34.9
 Intersection LOS: C
 Intersection Capacity Utilization 96.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44



Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑	↖	↖↖		↖			
Volume (vph)	318	1455	0	0	1712	703	622	0	88	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	2		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr t						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3400	5036	0	0	3505	1568	3400	0	1568	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3400	5036	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						575			90			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			956			678				629
Travel Time (s)		5.5			11.9			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	335	1532	0	0	1802	740	655	0	93	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	335	1532	0	0	1802	740	655	0	93	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases						2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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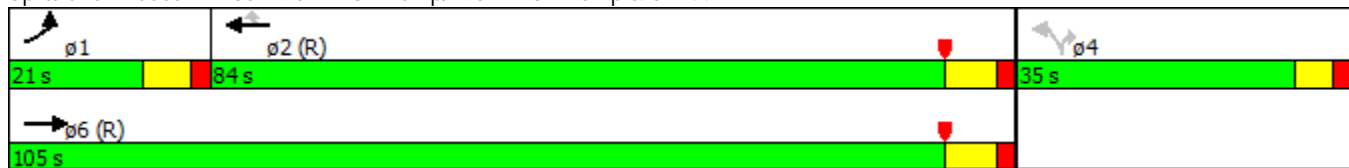


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	21.0	105.0			84.0	84.0	35.0		35.0			
Total Split (%)	15.0%	75.0%			60.0%	60.0%	25.0%		25.0%			
Maximum Green (s)	14.0	97.5			76.5	76.5	28.9		28.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	14.2	97.7			76.5	76.5	28.7		28.7			
Actuated g/C Ratio	0.10	0.70			0.55	0.55	0.20		0.20			
v/c Ratio	0.97	0.44			0.94	0.66	0.94		0.24			
Control Delay	81.2	18.1			13.8	1.0	76.8		11.0			
Queue Delay	0.0	0.0			0.7	0.0	19.2		0.0			
Total Delay	81.2	18.1			14.5	1.0	96.0		11.0			
LOS	F	B			B	A	F		B			
Approach Delay		29.4			10.6							
Approach LOS		C			B							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 52 (37%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 28.2
 Intersection LOS: C
 Intersection Capacity Utilization 89.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Volume (vph)	199	1344	2100	119	107	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.042				0.950	
Satd. Flow (perm)	77	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				66		142
Link Speed (mph)		55	55		45	
Link Distance (ft)		1382	522		572	
Travel Time (s)		17.1	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	209	1415	2211	125	113	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	1415	2211	125	113	332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	19.8	114.7	94.9	94.9	25.3	25.3
Total Split (%)	14.1%	81.9%	67.8%	67.8%	18.1%	18.1%
Maximum Green (s)	12.3	107.2	87.4	87.4	18.6	18.6
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	107.2	107.2	87.4	87.4	18.6	18.6
Actuated g/C Ratio	0.77	0.77	0.62	0.62	0.13	0.13
v/c Ratio	1.01	0.53	1.01	0.12	0.49	1.00
Control Delay	108.1	4.9	48.2	5.5	64.1	84.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.1	4.9	48.2	5.5	64.1	84.4
LOS	F	A	D	A	E	F
Approach Delay	18.2		45.9		79.2	
Approach LOS	B		D		E	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 24 (17%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 39.1
 Intersection LOS: D
 Intersection Capacity Utilization 93.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	377	278	40	34	356	341	58	178	40	317	167	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	2		0	1		0	1		1	2		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00
Frt		0.981			0.927				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1827	0	1770	1727	0	1770	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.559			0.641			0.950		
Satd. Flow (perm)	3433	1827	0	1041	1727	0	1194	1863	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			45				195			367
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	397	293	42	36	375	359	61	187	42	334	176	367
Shared Lane Traffic (%)												
Lane Group Flow (vph)	397	335	0	36	734	0	61	187	42	334	176	367
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			16				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		pm+pt	NA		pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases				6			8		8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2042 B1A
6/19/2015

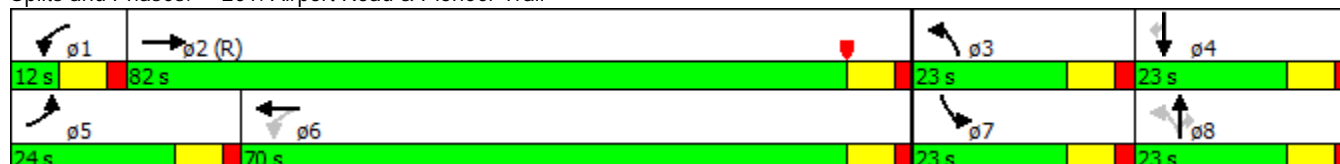


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	24.0	82.0		12.0	70.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	17.1%	58.6%		8.6%	50.0%		16.4%	16.4%	16.4%	16.4%	16.4%	16.4%
Maximum Green (s)	17.0	75.0		5.0	63.0		16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		None	None	None	None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	17.3	78.0		68.3	63.2		24.8	15.7	15.7	15.7	24.9	24.9
Actuated g/C Ratio	0.12	0.56		0.49	0.45		0.18	0.11	0.11	0.11	0.18	0.18
v/c Ratio	0.94	0.33		0.07	0.91		0.24	0.90	0.12	0.87	0.28	0.63
Control Delay	90.6	18.3		4.9	31.0		41.2	101.6	0.7	83.1	52.8	10.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.6	18.3		4.9	31.0		41.2	101.6	0.7	83.1	52.8	10.5
LOS	F	B		A	C		D	F	A	F	D	B
Approach Delay		57.5			29.7			74.3			46.6	
Approach LOS		E			C			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 11 (8%), Referenced to phase 2:EBT, Start of Yellow
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 47.7
 Intersection LOS: D
 Intersection Capacity Utilization 92.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings

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202: Williamson Blvd/Williamson Boulevard & Pioneer Trail

6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	177	396	77	198	460	455	128	405	289	289	179	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	250		250	250		250
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.976				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3454	0	1770	1863	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.219			0.354			0.639			0.950		
Satd. Flow (perm)	408	3454	0	659	1863	1583	1190	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				359			274			140
Link Speed (mph)		45			45			30				35
Link Distance (ft)		609			1444			965				1084
Travel Time (s)		9.2			21.9			21.9				21.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	186	417	81	208	484	479	135	426	304	304	188	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	498	0	208	484	479	135	426	304	304	188	134
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8			4

Lanes, Volumes, Timings
 202: Williamson Blvd/Williamson Boulevard & Pioneer Trail

2042 B1A
 6/19/2015

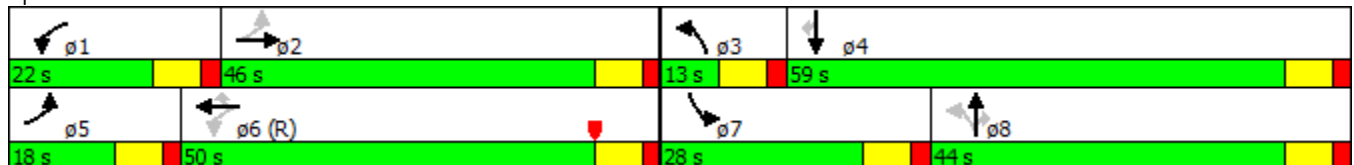


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0	23.0	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	18.0	46.0		22.0	50.0	50.0	13.0	44.0	44.0	28.0	59.0	59.0
Total Split (%)	12.9%	32.9%		15.7%	35.7%	35.7%	9.3%	31.4%	31.4%	20.0%	42.1%	42.1%
Maximum Green (s)	11.0	39.0		15.0	43.0	43.0	6.0	37.0	37.0	21.0	52.0	52.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0	0	0	0
Act Effct Green (s)	56.3	44.9		61.0	47.3	47.3	41.9	35.9	35.9	17.4	47.3	47.3
Actuated g/C Ratio	0.40	0.32		0.44	0.34	0.34	0.30	0.26	0.26	0.12	0.34	0.34
v/c Ratio	0.68	0.45		0.53	0.77	0.62	0.35	0.89	0.50	0.71	0.30	0.21
Control Delay	41.0	43.9		23.5	34.7	9.2	19.5	37.1	2.0	68.4	34.5	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	43.9		23.5	34.7	9.2	19.5	37.1	2.0	68.4	34.5	4.8
LOS	D	D		C	C	A	B	D	A	E	C	A
Approach Delay		43.1			22.3			22.0			44.6	
Approach LOS		D			C			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 129 (92%), Referenced to phase 6:WBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 30.6
 Intersection LOS: C
 Intersection Capacity Utilization 86.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 202: Williamson Blvd/Williamson Boulevard & Pioneer Trail



Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

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 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↑↑		↑
Volume (vph)	0	690	284	229	883	0	0	0	0	449	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	0		0	200		250
Storage Lanes	0		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Flt		0.956										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	3383	0	1770	3539	0	0	0	0	3433	0	1583
Flt Permitted				0.200						0.950		
Satd. Flow (perm)	0	3383	0	373	3539	0	0	0	0	3433	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57										181
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1444			1065			541				728
Travel Time (s)		21.9			16.1			12.3				16.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	726	299	241	929	0	0	0	0	473	0	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1025	0	241	929	0	0	0	0	473	0	242
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases				6						4		4

Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

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 6/19/2015

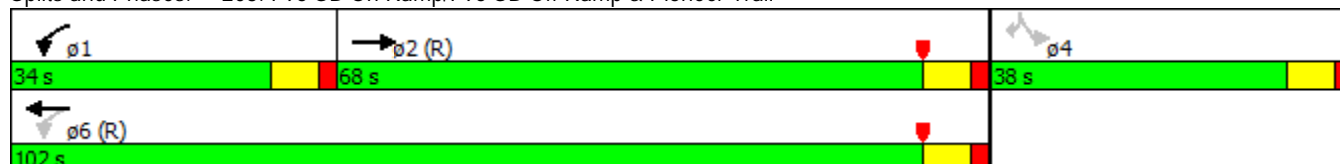


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2		1	6					4		4
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					5.0		5.0
Minimum Split (s)		23.0		12.0	23.0					23.0		23.0
Total Split (s)		68.0		34.0	102.0					38.0		38.0
Total Split (%)		48.6%		24.3%	72.9%					27.1%		27.1%
Maximum Green (s)		61.0		27.0	95.0					31.0		31.0
Yellow Time (s)		5.0		5.0	5.0					5.0		5.0
All-Red Time (s)		2.0		2.0	2.0					2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.0		7.0	7.0					7.0		7.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)		5.0			5.0					5.0		5.0
Flash Dont Walk (s)		11.0			11.0					11.0		11.0
Pedestrian Calls (#/hr)		0			0					0		0
Act Effect Green (s)		81.1		101.1	101.1					24.9		24.9
Actuated g/C Ratio		0.58		0.72	0.72					0.18		0.18
v/c Ratio		0.52		0.61	0.36					0.77		0.56
Control Delay		7.7		15.8	9.1					63.6		19.1
Queue Delay		0.0		0.0	0.0					0.0		0.0
Total Delay		7.7		15.8	9.1					63.6		19.1
LOS		A		B	A					E		B
Approach Delay		7.7			10.5							
Approach LOS		A			B							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 38 (27%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 18.9
 Intersection LOS: B
 Intersection Capacity Utilization 81.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail



Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2042 B1A
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	325	814	0	0	634	472	478	0	125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	200		250	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.936				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3313	0	3433	0	1583	0	0	0
Fl _t Permitted	0.128						0.950					
Satd. Flow (perm)	238	3539	0	0	3313	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					164				132			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1065			327			535			742	
Travel Time (s)		16.1			5.0			12.2			16.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	342	857	0	0	667	497	503	0	132	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	342	857	0	0	1164	0	503	0	132	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		2		0			
Detector 1 Position(ft)	0	0			0		2		0			
Detector 1 Size(ft)	20	6			6		18		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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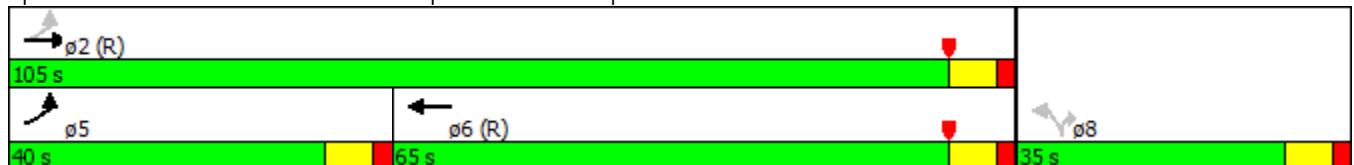


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6		8		8			
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		15.0		15.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	40.0	105.0			65.0		35.0		35.0			
Total Split (%)	28.6%	75.0%			46.4%		25.0%		25.0%			
Maximum Green (s)	33.0	98.0			58.0		28.0		28.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	101.1	101.1			69.6		24.9		24.9			
Actuated g/C Ratio	0.72	0.72			0.50		0.18		0.18			
v/c Ratio	0.78	0.34			0.67		0.82		0.34			
Control Delay	37.3	12.3			19.8		67.2		9.9			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	37.3	12.3			19.8		67.2		9.9			
LOS	D	B			B		E		A			
Approach Delay		19.4			19.8							
Approach LOS		B			B							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 65 (46%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 27.2
 Intersection LOS: C
 Intersection Capacity Utilization 81.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	53	372	734	45	277	662
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.850	0.992			
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1848	0	1770	1863
Fl _t Permitted	0.950				0.203	
Satd. Flow (perm)	1770	1583	1848	0	378	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		386	3			
Link Speed (mph)	45		35			45
Link Distance (ft)	1187		457			524
Travel Time (s)	18.0		8.9			7.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	56	392	773	47	292	697
Shared Lane Traffic (%)						
Lane Group Flow (vph)	56	392	820	0	292	697
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	

Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

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6/19/2015

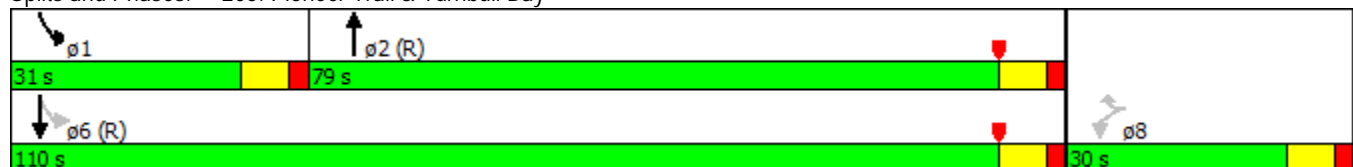


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	23.0	23.0	23.0		11.0	23.0
Total Split (s)	30.0	30.0	79.0		31.0	110.0
Total Split (%)	21.4%	21.4%	56.4%		22.1%	78.6%
Maximum Green (s)	23.0	23.0	72.0		24.0	103.0
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0	7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effect Green (s)	11.4	11.4	90.0		114.6	114.6
Actuated g/C Ratio	0.08	0.08	0.64		0.82	0.82
v/c Ratio	0.39	0.81	0.69		0.60	0.46
Control Delay	66.8	19.7	22.5		12.0	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.1
Total Delay	66.8	19.7	22.5		12.0	3.2
LOS	E	B	C		B	A
Approach Delay	25.6		22.5			5.8
Approach LOS	C		C			A

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 83 (59%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 15.8
 Intersection Capacity Utilization 77.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 205: Pioneer Trail & Turnbull Bay



Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2042 B1A
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	161	440	68	70	564	40	73	59	60	10	163	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.992			0.958			0.959	
Flt Protected		0.988			0.995			0.981			0.998	
Satd. Flow (prot)	0	1815	0	0	1839	0	0	1751	0	0	1783	0
Flt Permitted		0.677			0.863			0.573			0.982	
Satd. Flow (perm)	0	1243	0	0	1595	0	0	1023	0	0	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			6			18			17	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	169	463	72	74	594	42	77	62	63	11	172	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	704	0	0	710	0	0	202	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	86.0	86.0		86.0	86.0		34.0	34.0		34.0	34.0	
Total Split (%)	71.7%	71.7%		71.7%	71.7%		28.3%	28.3%		28.3%	28.3%	
Maximum Green (s)	79.0	79.0		79.0	79.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		79.0			79.0			27.0			27.0	
Actuated g/C Ratio		0.66			0.66			0.22			0.22	
v/c Ratio		0.86			0.67			0.83			0.65	
Control Delay		28.5			16.5			67.9			47.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			16.5			67.9			47.7	
LOS		C			B			E			D	
Approach Delay		28.5			16.5			67.9			47.7	
Approach LOS		C			B			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 30.9
 Intersection LOS: C
 Intersection Capacity Utilization 111.7%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	313	9	2	414	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	329	9	2	436	12	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	329
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1231
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1231
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	410	-	-	1231	-
HCM Lane V/C Ratio	0.036	-	-	0.002	-
HCM Control Delay (s)	14.1	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 19.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	282	72	226	288	97	228
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	297	76	238	303	102	240

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	373
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1185
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1185
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	64.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	369	-	-	1185	-
HCM Lane V/C Ratio	0.927	-	-	0.201	-
HCM Control Delay (s)	64.2	-	-	8.8	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	9.8	-	-	0.7	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	938	14	72	628	139	24	51	52	202	15	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1630	0
Flt Permitted	0.950			0.950			0.695			0.441		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1295	1863	1583	821	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			167			167		79	
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	153	987	15	76	661	146	25	54	55	213	16	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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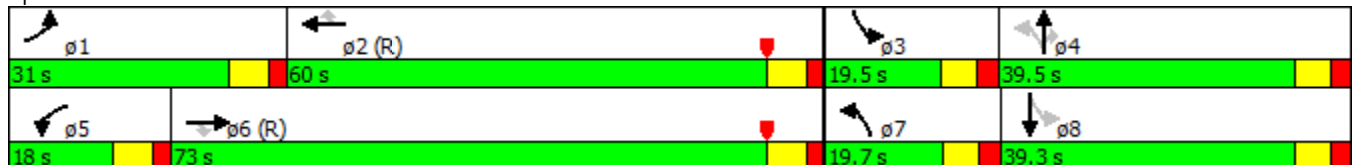


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.7	39.5	39.5	19.5	39.3	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	13.1%	26.3%	26.3%	13.0%	26.2%	
Maximum Green (s)	24.5	66.5	66.5	11.5	53.5	53.5	13.2	33.0	33.0	13.0	32.8	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	18.2	91.6	91.6	11.8	85.2	85.2	16.3	10.9	10.9	26.1	18.3	
Actuated g/C Ratio	0.12	0.61	0.61	0.08	0.57	0.57	0.11	0.07	0.07	0.17	0.12	
v/c Ratio	0.71	0.87	0.01	0.55	0.63	0.15	0.15	0.40	0.20	0.95	0.35	
Control Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
LOS	F	D	A	F	C	A	D	E	A	F	C	
Approach Delay		41.4			27.8			40.3			79.3	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 41.2
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	761	131	344	493	1062	148	1554	819	1201	718	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4973	0	3433	3539	1583	3433	3539	2787	3433	3447	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4973	0	3433	3539	1583	3433	3539	2787	3433	3447	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				76			124			16
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	358	801	138	362	519	1118	156	1636	862	1264	756	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	358	939	0	362	519	1118	156	1636	862	1264	912	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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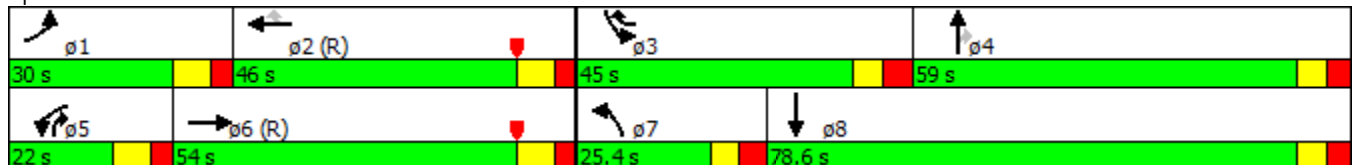


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0	47.5	
Total Split (s)	30.0	54.0		22.0	46.0	45.0	25.4	59.0	22.0	45.0	78.6	
Total Split (%)	16.7%	30.0%		12.2%	25.6%	25.0%	14.1%	32.8%	12.2%	25.0%	43.7%	
Maximum Green (s)	22.0	46.0		14.0	38.0	37.0	17.9	51.5	14.0	37.0	71.1	
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0	3.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0	7.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0						7.0	
Flash Dont Walk (s)		36.0			25.0						33.0	
Pedestrian Calls (#/hr)		0			0						0	
Act Effct Green (s)	21.4	46.0		14.0	38.6	83.6	13.5	51.5	73.0	37.0	75.5	
Actuated g/C Ratio	0.12	0.26		0.08	0.21	0.46	0.08	0.29	0.41	0.21	0.42	
v/c Ratio	0.88	0.73		1.36	0.68	1.44	0.61	1.62	0.72	1.79	0.63	
Control Delay	100.0	64.1		230.9	77.1	239.1	90.5	320.8	41.8	399.5	43.1	
Queue Delay	0.0	0.6		0.0	0.0	0.0	0.0	0.0	0.1	3.4	0.0	
Total Delay	100.0	64.7		230.9	77.1	239.1	90.5	320.8	41.9	402.9	43.1	
LOS	F	E		F	E	F	F	F	D	F	D	
Approach Delay		74.4			195.6			216.7			252.1	
Approach LOS		E			F			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 44 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.79
 Intersection Signal Delay: 198.3
 Intersection LOS: F
 Intersection Capacity Utilization 138.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2542	239	279	1576	0	0	0	0	681	0	323
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.987										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5019	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5019	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14										80
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2676	252	294	1659	0	0	0	0	717	0	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2928	0	294	1659	0	0	0	0	717	0	340
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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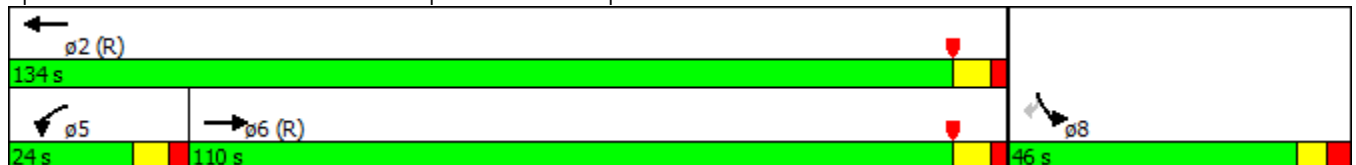


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		110.0		24.0	134.0					46.0		46.0
Total Split (%)		61.1%		13.3%	74.4%					25.6%		25.6%
Maximum Green (s)		102.5		16.5	126.5					38.5		38.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		102.5		16.5	126.5					38.5		38.5
Actuated g/C Ratio		0.57		0.09	0.70					0.21		0.21
v/c Ratio		1.02		0.94	0.67					0.98		0.52
Control Delay		37.7		122.3	11.0					97.1		50.4
Queue Delay		32.0		0.0	0.1					0.0		1.5
Total Delay		69.7		122.3	11.1					97.1		51.9
LOS		E		F	B					F		D
Approach Delay		69.7			27.8							
Approach LOS		E			C							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 132 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 58.2
 Intersection LOS: E
 Intersection Capacity Utilization 100.6%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑			↑↑↑	↗	↖		↗↗			
Volume (vph)	347	2876	0	0	1616	881	239	0	395	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						645			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	365	3027	0	0	1701	927	252	0	416	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	365	3027	0	0	1701	927	252	0	416	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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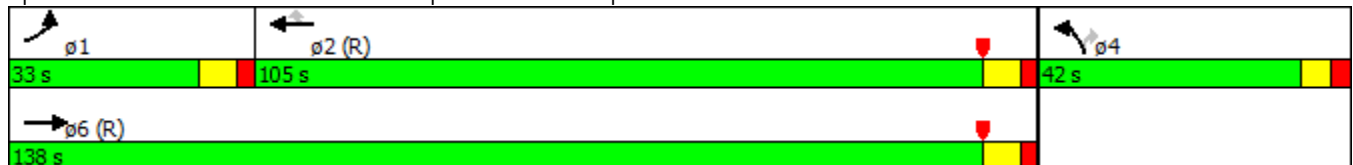


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	33.0	138.0			105.0	105.0	42.0		42.0			
Total Split (%)	18.3%	76.7%			58.3%	58.3%	23.3%		23.3%			
Maximum Green (s)	25.5	130.5			97.5	97.5	35.0		35.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	23.2	135.6			104.9	104.9	29.9		29.9			
Actuated g/C Ratio	0.13	0.75			0.58	0.58	0.17		0.17			
v/c Ratio	0.83	0.79			0.57	0.78	0.86		0.79			
Control Delay	93.2	6.8			5.8	9.5	98.7		70.4			
Queue Delay	0.0	1.3			0.2	6.2	0.0		0.1			
Total Delay	93.2	8.0			6.0	15.7	98.7		70.5			
LOS	F	A			A	B	F		E			
Approach Delay	17.2				9.5							
Approach LOS	B				A							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 140 (78%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 20.5
 Intersection LOS: C
 Intersection Capacity Utilization 100.6%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2578	693	28	2497	0	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		250				51
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2714	729	29	2628	0	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2714	729	29	2628	0	388
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	113.0	113.0	12.0	125.0		55.0
Total Split (%)	62.8%	62.8%	6.7%	69.4%		30.6%
Maximum Green (s)	106.0	106.0	5.0	117.5		48.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	112.9	112.9	6.3	123.2		42.8
Actuated g/C Ratio	0.63	0.63	0.04	0.68		0.24
v/c Ratio	0.85	0.67	0.47	0.75		0.92
Control Delay	20.9	9.2	88.5	15.6		85.1
Queue Delay	1.7	0.9	0.0	0.0		0.0
Total Delay	22.5	10.1	88.5	15.6		85.1
LOS	C	B	F	B		F
Approach Delay	19.9			16.4		
Approach LOS	B			B		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 137 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 22.4
 Intersection LOS: C
 Intersection Capacity Utilization 83.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖↖	↑	↖	↖	↖↖	
Volume (vph)	184	2437	170	204	1584	282	611	71	55	333	35	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.990			0.977				0.850		0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5034	0	1770	4968	0	3433	1863	1583	1770	3093	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5034	0	1770	4968	0	3433	1863	1583	1770	3093	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			24				121		139	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	194	2565	179	215	1667	297	643	75	58	351	37	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	2744	0	215	1964	0	643	75	58	351	229	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

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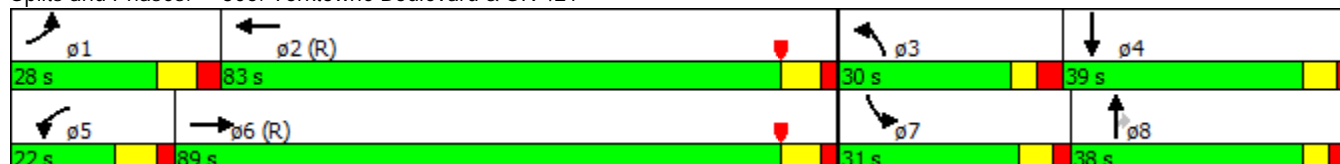


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	28.0	89.0		22.0	83.0		30.0	38.0	38.0	31.0	39.0	
Total Split (%)	15.6%	49.4%		12.2%	46.1%		16.7%	21.1%	21.1%	17.2%	21.7%	
Maximum Green (s)	19.5	81.0		14.0	75.0		23.0	31.0	31.0	24.0	32.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	29.1	81.0		32.0	83.4		23.0	13.0	13.0	24.0	14.0	
Actuated g/C Ratio	0.16	0.45		0.18	0.46		0.13	0.07	0.07	0.13	0.08	
v/c Ratio	0.68	1.21		0.68	0.85		1.47	0.56	0.26	1.49	0.62	
Control Delay	89.3	131.7		56.4	53.8		272.2	95.8	2.7	289.0	38.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	89.3	131.7		56.4	53.8		272.2	95.8	2.7	289.0	38.4	
LOS	F	F		E	D		F	F	A	F	D	
Approach Delay		128.9			54.1			235.0			190.1	
Approach LOS		F			D			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 123 (68%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 121.9
 Intersection LOS: F
 Intersection Capacity Utilization 114.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

2042 B1A
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑		↖	↑↑↑	↖	↖↖	↑↑		↖↖	↑	↖
Volume (vph)	662	1887	193	86	1279	329	376	471	105	248	221	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Fr _t		0.986				0.850		0.973				0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5014	0	1770	5085	1583	3433	3444	0	3433	1863	1583
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5014	0	1770	5085	1583	3433	3444	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				240		14				311
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	697	1986	203	91	1346	346	396	496	111	261	233	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	697	2189	0	91	1346	346	396	607	0	261	233	353
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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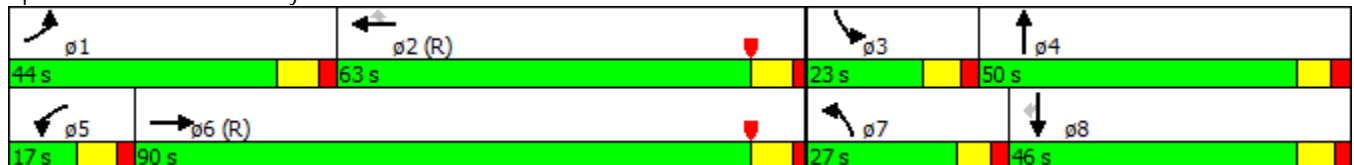


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	44.0	90.0		17.0	63.0	63.0	27.0	50.0		23.0	46.0	46.0
Total Split (%)	24.4%	50.0%		9.4%	35.0%	35.0%	15.0%	27.8%		12.8%	25.6%	25.6%
Maximum Green (s)	36.0	82.5		9.0	55.5	55.5	20.0	42.5		15.5	38.5	38.5
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	40.1	83.3		13.0	56.2	56.2	20.0	37.7		15.4	33.7	33.7
Actuated g/C Ratio	0.22	0.46		0.07	0.31	0.31	0.11	0.21		0.09	0.19	0.19
v/c Ratio	0.91	0.94		0.72	0.85	0.53	1.04	0.83		0.89	0.67	0.64
Control Delay	50.7	38.9		107.3	64.2	18.0	131.1	76.6		110.6	77.4	15.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	50.7	38.9		107.3	64.2	18.0	131.1	76.6		110.6	77.4	15.5
LOS	D	D		F	E	B	F	E		F	E	B
Approach Delay		41.8			57.4			98.2			61.8	
Approach LOS		D			E			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 16 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 57.3
 Intersection LOS: E
 Intersection Capacity Utilization 94.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Intersection												
Int Delay, s/veh	3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	690	284	229	883	0	0	0	0	0	0	230
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	726	299	241	929	0	0	0	0	0	0	242

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	929	0	0	1025	0	0	1775	2437	465
Stage 1	-	-	-	-	-	-	1412	1412	-
Stage 2	-	-	-	-	-	-	363	1025	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	732	-	-	673	-	-	74	31	544
Stage 1	-	-	-	-	-	-	191	203	-
Stage 2	-	-	-	-	-	-	674	311	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	732	-	-	673	-	-	48	0	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	0	-
Stage 1	-	-	-	-	-	-	123	0	-
Stage 2	-	-	-	-	-	-	674	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	2.7	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	732	-	-	673	-	-	544
HCM Lane V/C Ratio	-	-	-	0.358	-	-	0.445
HCM Control Delay (s)	0	-	-	13.3	-	-	16.8
HCM Lane LOS	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0	-	-	1.6	-	-	2.3

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	325	814	0	0	634	472	478	0	125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	200		250	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.936				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3313	0	3433	0	1583	0	0	0
Flt Permitted	0.123						0.950					
Satd. Flow (perm)	229	3539	0	0	3313	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					164				132			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		787			327			535				742
Travel Time (s)		11.9			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	342	857	0	0	667	497	503	0	132	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	342	857	0	0	1164	0	503	0	132	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		2		0			
Detector 1 Position(ft)	0	0			0		2		0			
Detector 1 Size(ft)	20	6			6		18		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

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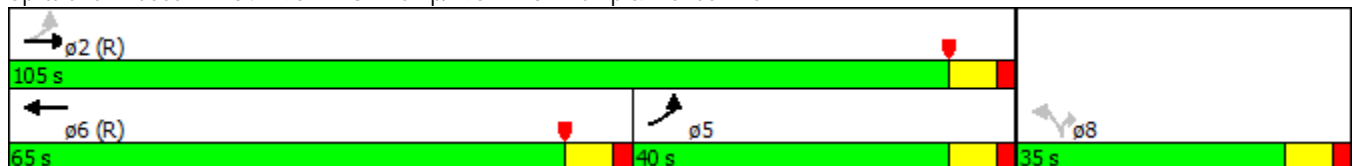


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		15.0		15.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	40.0	105.0			65.0		35.0		35.0			
Total Split (%)	28.6%	75.0%			46.4%		25.0%		25.0%			
Maximum Green (s)	33.0	98.0			58.0		28.0		28.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	101.1	101.1			61.1		24.9		24.9			
Actuated g/C Ratio	0.72	0.72			0.44		0.18		0.18			
v/c Ratio	0.65	0.34			0.76		0.82		0.34			
Control Delay	37.6	8.2			20.3		67.2		9.9			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	37.6	8.2			20.3		67.2		9.9			
LOS	D	A			C		E		A			
Approach Delay		16.5			20.3							
Approach LOS		B			C							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 117 (84%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 26.2
 Intersection LOS: C
 Intersection Capacity Utilization 79.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	868	59	314	527	45	59	194	352	43	321	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.988				0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	3463	0	1752	1845	1568	1752	1813	0
Flt Permitted	0.950			0.950			0.202			0.525		
Satd. Flow (perm)	1752	3505	1568	1752	3463	0	373	1845	1568	968	1813	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100		10				371		5	
Link Speed (mph)		65			65			30			30	
Link Distance (ft)		2043			14703			1198			1442	
Travel Time (s)		21.4			154.2			27.2			32.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	914	62	331	555	47	62	204	371	45	338	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	914	62	331	602	0	62	204	371	45	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

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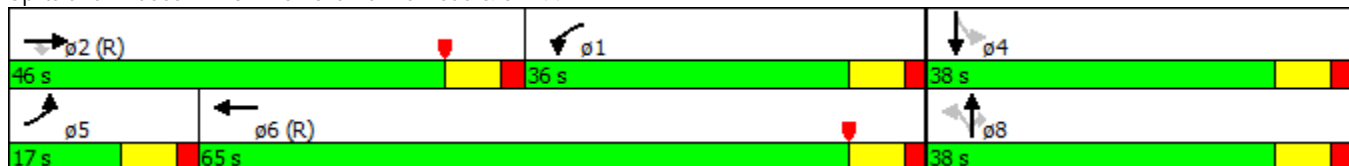


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	17.0	46.0	46.0	36.0	65.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	14.2%	38.3%	38.3%	30.0%	54.2%		31.7%	31.7%	31.7%	31.7%	31.7%	
Maximum Green (s)	10.0	39.0	39.0	29.0	58.0		31.0	31.0	31.0	31.0	31.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	9.1	41.7	41.7	29.0	64.3		28.3	28.3	28.3	28.3	28.3	
Actuated g/C Ratio	0.08	0.35	0.35	0.24	0.54		0.24	0.24	0.24	0.24	0.24	
v/c Ratio	0.56	0.75	0.10	0.78	0.32		0.70	0.47	0.57	0.20	0.88	
Control Delay	69.5	39.9	1.8	39.6	3.0		81.7	42.6	7.3	37.8	65.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	69.5	39.9	1.8	39.6	3.0		81.7	42.6	7.3	37.8	65.8	
LOS	E	D	A	D	A		F	D	A	D	E	
Approach Delay		39.8			16.0			25.9			62.8	
Approach LOS		D			B			C			E	

Intersection Summary

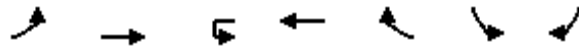
Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 102 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 32.8
 Intersection LOS: C
 Intersection Capacity Utilization 96.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44

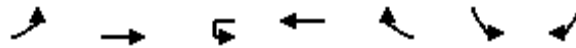


Lanes, Volumes, Timings
103: SR 44 & Williamson Blvd

2022 B1P
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Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↗	↑↑	↖	↖	↖
Volume (vph)	73	1271	73	865	250	313	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		515		375	0	180
Storage Lanes	1		1		1	1	1
Taper Length (ft)	45		50			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Flt					0.850		0.850
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	1752	3505	1752	3505	1568	1752	1568
Flt Permitted	0.208		0.161			0.950	
Satd. Flow (perm)	384	3505	297	3505	1568	1752	1568
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)					263		78
Link Speed (mph)		65		65		30	
Link Distance (ft)		8741		1490		436	
Travel Time (s)		91.7		15.6		9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	1338	77	911	263	329	78
Shared Lane Traffic (%)							
Lane Group Flow (vph)	77	1338	77	911	263	329	78
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		28		28		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Number of Detectors	1	2	1	2	1	1	1
Detector Template	Left	Thru	Left	Thru	Right	Left	Right
Leading Detector (ft)	20	100	20	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			
Detector 2 Size(ft)		6		6			
Detector 2 Type		Cl+Ex		Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)		0.0		0.0			
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Prot	Perm
Protected Phases	1	6	5	2		8	
Permitted Phases	6		2		2		8
Detector Phase	1	6	5	2	2	8	8

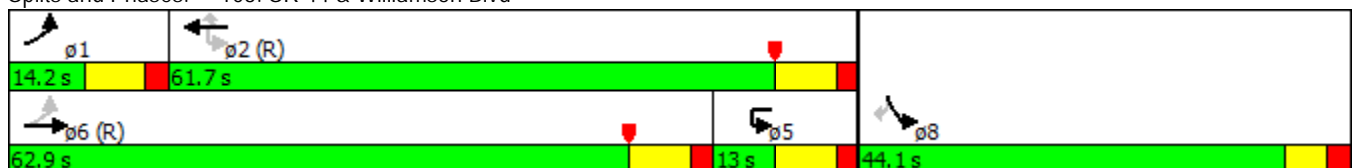


Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Switch Phase							
Minimum Initial (s)	5.0	16.0	5.0	16.0	16.0	7.0	7.0
Minimum Split (s)	12.5	23.5	12.5	36.5	36.5	44.1	44.1
Total Split (s)	14.2	62.9	13.0	61.7	61.7	44.1	44.1
Total Split (%)	11.8%	52.4%	10.8%	51.4%	51.4%	36.8%	36.8%
Maximum Green (s)	6.7	55.4	5.5	54.2	54.2	38.0	38.0
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	3.7	3.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	6.1	6.1
Lead/Lag	Lead	Lead	Lag	Lag	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None
Walk Time (s)				7.0	7.0	7.0	7.0
Flash Dont Walk (s)				22.0	22.0	31.0	31.0
Pedestrian Calls (#/hr)				0	0	0	0
Act Effct Green (s)	68.1	68.1	66.0	66.0	66.0	27.9	27.9
Actuated g/C Ratio	0.57	0.57	0.55	0.55	0.55	0.23	0.23
v/c Ratio	0.25	0.67	0.33	0.47	0.27	0.81	0.18
Control Delay	7.5	9.1	20.5	15.4	5.0	58.6	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	9.1	20.5	15.4	5.0	58.6	7.9
LOS	A	A	C	B	A	E	A
Approach Delay		9.0		13.5		48.9	
Approach LOS		A		B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 119 (99%), Referenced to phase 2:WBTU and 6:EBTL, Start of Yellow
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 16.1
 Intersection LOS: B
 Intersection Capacity Utilization 74.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 103: SR 44 & Williamson Blvd



Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1343	314	112	1027	0	0	0	0	0	0	161
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1414	331	118	1081	0	0	0	0	0	0	169

Major/Minor

	Major1		Major2		Minor2				
Conflicting Flow All	1081	0	0	1414	0	0	2024	2731	541
Stage 1	-	-	-	-	-	-	1317	1317	-
Stage 2	-	-	-	-	-	-	707	1414	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	635	-	-	473	-	-	50	20	483
Stage 1	-	-	-	-	-	-	213	223	-
Stage 2	-	-	-	-	-	-	447	200	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	635	-	-	473	-	-	38	0	483
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	0	-
Stage 1	-	-	-	-	-	-	160	0	-
Stage 2	-	-	-	-	-	-	447	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	1.5	16.4
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	635	-	-	473	-	-	483
HCM Lane V/C Ratio	-	-	-	0.249	-	-	0.351
HCM Control Delay (s)	0	-	-	15.1	-	-	16.4
HCM Lane LOS	A	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0	-	-	1	-	-	1.6

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↗↗		↗			
Volume (vph)	165	1788	0	0	923	393	216	0	163	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr t						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Flt Permitted	0.236						0.950					
Satd. Flow (perm)	435	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						414			105			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	1882	0	0	972	414	227	0	172	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	1882	0	0	972	414	227	0	172	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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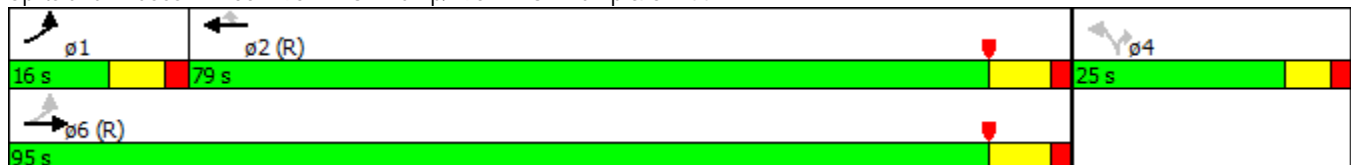


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	16.0	95.0			79.0	79.0	25.0		25.0			
Total Split (%)	13.3%	79.2%			65.8%	65.8%	20.8%		20.8%			
Maximum Green (s)	9.0	87.5			71.5	71.5	18.9		18.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	92.5	92.0			76.8	76.8	14.4		14.4			
Actuated g/C Ratio	0.77	0.77			0.64	0.64	0.12		0.12			
v/c Ratio	0.41	0.70			0.43	0.36	0.56		0.61			
Control Delay	4.4	4.3			15.7	5.2	54.7		29.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	4.4	4.3			15.7	5.2	54.7		29.9			
LOS	A	A			B	A	D		C			
Approach Delay		4.3			12.6							
Approach LOS		A			B							

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	29 (24%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	11.4
Intersection LOS:	B
Intersection Capacity Utilization:	70.9%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↕	↕	↗	↖	↗
Volume (vph)	153	1798	1216	68	64	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.155				0.950	
Satd. Flow (perm)	286	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				66		105
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	161	1893	1280	72	67	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	161	1893	1280	72	67	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	21.0	96.0	75.0	75.0	24.0	24.0
Total Split (%)	17.5%	80.0%	62.5%	62.5%	20.0%	20.0%
Maximum Green (s)	13.5	88.5	67.5	67.5	17.3	17.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	94.9	94.9	79.1	79.1	10.9	10.9
Actuated g/C Ratio	0.79	0.79	0.66	0.66	0.09	0.09
v/c Ratio	0.49	0.68	0.55	0.07	0.42	0.44
Control Delay	7.2	1.7	12.8	2.7	58.9	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	1.7	12.8	2.7	58.9	15.2
LOS	A	A	B	A	E	B
Approach Delay	2.2		12.2		32.2	
Approach LOS	A		B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 56 (47%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 7.4
 Intersection LOS: A
 Intersection Capacity Utilization 66.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2022 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	142	36	20	180	128	19	129	25	141	142	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.937				0.850			0.850
Flt Protected	0.950			0.950				0.994		0.950		
Satd. Flow (prot)	1770	1807	0	1770	1745	0	0	1852	1583	1770	1863	1583
Flt Permitted	0.364			0.640				0.994		0.950		
Satd. Flow (perm)	678	1807	0	1192	1745	0	0	1852	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			32				227			227
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	180	149	38	21	189	135	20	136	26	148	149	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	187	0	21	324	0	0	156	26	148	149	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

2022 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	55.0		12.0	47.0		30.0	30.0	30.0	23.0	23.0	23.0
Total Split (%)	16.7%	45.8%		10.0%	39.2%		25.0%	25.0%	25.0%	19.2%	19.2%	19.2%
Maximum Green (s)	13.0	48.0		5.0	40.0		23.0	23.0	23.0	16.0	16.0	16.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effect Green (s)	60.0	55.2		46.5	41.5		23.0	23.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.50	0.46		0.39	0.35		0.19	0.19	0.13	0.13	0.13	0.13
v/c Ratio	0.41	0.22		0.04	0.52		0.44	0.05	0.63	0.60	0.45	0.45
Control Delay	19.7	20.3		7.7	12.8		47.4	0.2	61.9	60.0	6.4	6.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	20.3		7.7	12.8		47.4	0.2	61.9	60.0	6.4	6.4
LOS	B	C		A	B		D	A	E	E	A	A
Approach Delay		20.0			12.4		40.6				40.0	
Approach LOS		B			B		D				D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 33 (28%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 27.8 Intersection LOS: C
 Intersection Capacity Utilization 65.7% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2022 B1P
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	74	234	259	220	199	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Fl _t Permitted	0.474				0.950	
Satd. Flow (perm)	883	3539	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				232		73
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	1444		1084	
Travel Time (s)		9.2	21.9		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	78	246	273	232	209	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	246	273	232	209	73
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4

Lanes, Volumes, Timings
 202: Pioneer Trail & Williamson Boulevard

2022 B1P
 6/19/2015

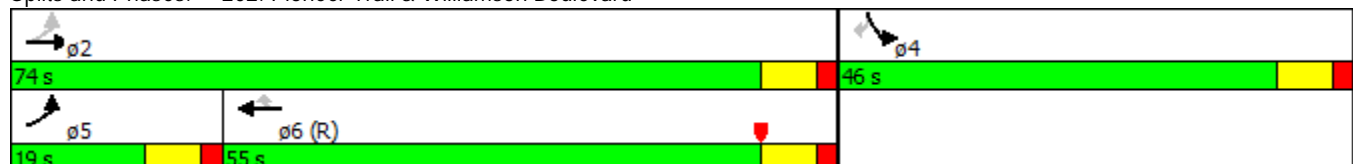


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	19.0	74.0	55.0	55.0	46.0	46.0
Total Split (%)	15.8%	61.7%	45.8%	45.8%	38.3%	38.3%
Maximum Green (s)	12.0	67.0	48.0	48.0	39.0	39.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	Max	Max
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	67.0	67.0	54.7	54.7	39.0	39.0
Actuated g/C Ratio	0.56	0.56	0.46	0.46	0.32	0.32
v/c Ratio	0.14	0.12	0.32	0.27	0.36	0.13
Control Delay	10.6	10.5	18.7	5.7	33.3	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	10.5	18.7	5.7	33.3	7.1
LOS	B	B	B	A	C	A
Approach Delay		10.5	12.7		26.5	
Approach LOS		B	B		C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 20 (17%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.36
 Intersection Signal Delay: 15.6
 Intersection LOS: B
 Intersection Capacity Utilization 46.3%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Lanes, Volumes, Timings
203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2022 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖↖		↖
Volume (vph)	0	327	106	72	406	0	0	0	0	169	0	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	0		0	0		250
Storage Lanes	0		0	1		0	0		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr _t		0.963										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	3408	0	1770	3539	0	0	0	0	3433	0	1583
Fl _t Permitted				0.451						0.950		
Satd. Flow (perm)	0	3408	0	840	3539	0	0	0	0	3433	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43										100
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1444			1065			541				728
Travel Time (s)		21.9			16.1			12.3				16.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	344	112	76	427	0	0	0	0	178	0	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	456	0	76	427	0	0	0	0	178	0	77
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases				6						4		4

Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2022 B1P
 6/19/2015

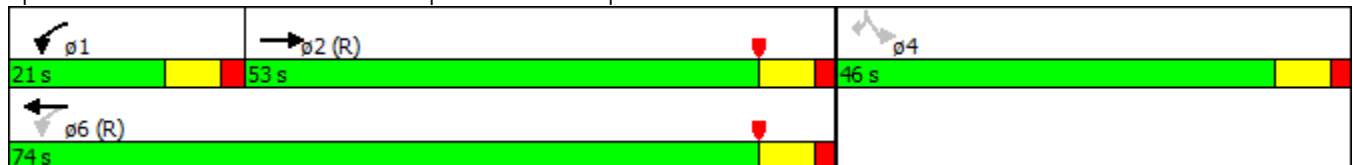


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2		1	6					4		4
Switch Phase												
Minimum Initial (s)		15.0		6.0	15.0					6.0		6.0
Minimum Split (s)		23.0		13.0	23.0					23.0		23.0
Total Split (s)		53.0		21.0	74.0					46.0		46.0
Total Split (%)		44.2%		17.5%	61.7%					38.3%		38.3%
Maximum Green (s)		46.0		14.0	67.0					39.0		39.0
Yellow Time (s)		5.0		5.0	5.0					5.0		5.0
All-Red Time (s)		2.0		2.0	2.0					2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.0		7.0	7.0					7.0		7.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)		5.0			5.0					5.0		5.0
Flash Dont Walk (s)		11.0			11.0					11.0		11.0
Pedestrian Calls (#/hr)		0			0					0		0
Act Effect Green (s)		83.2		94.4	94.4					11.6		11.6
Actuated g/C Ratio		0.69		0.79	0.79					0.10		0.10
v/c Ratio		0.19		0.11	0.15					0.54		0.32
Control Delay		0.8		2.6	2.4					57.3		8.4
Queue Delay		0.0		0.0	0.0					0.0		0.0
Total Delay		0.8		2.6	2.4					57.3		8.4
LOS		A		A	A					E		A
Approach Delay		0.8			2.5							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 115 (96%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 10.3
 Intersection LOS: B
 Intersection Capacity Utilization 41.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail



Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2022 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	88	408	0	0	355	115	123	0	33	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.963				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3408	0	3433	0	1583	0	0	0
Fl _t Permitted	0.469						0.950					
Satd. Flow (perm)	874	3539	0	0	3408	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					52				100			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1065			327			535				742
Travel Time (s)		16.1			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	93	429	0	0	374	121	129	0	35	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	429	0	0	495	0	129	0	35	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2022 B1P
 6/19/2015

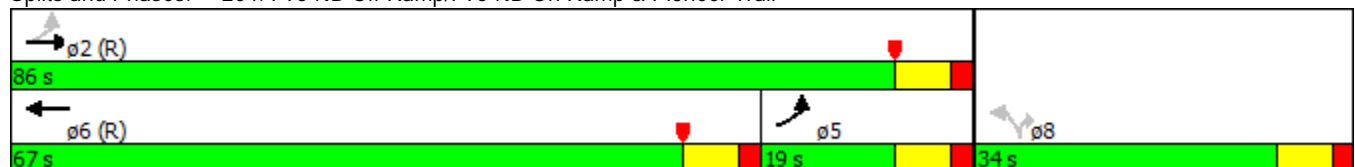


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6		8		8			
Switch Phase												
Minimum Initial (s)	6.0	15.0			5.0		6.0		6.0			
Minimum Split (s)	13.0	23.0			23.0		23.0		23.0			
Total Split (s)	19.0	86.0			67.0		34.0		34.0			
Total Split (%)	15.8%	71.7%			55.8%		28.3%		28.3%			
Maximum Green (s)	12.0	79.0			60.0		27.0		27.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	96.1	96.1			77.1		9.9		9.9			
Actuated g/C Ratio	0.80	0.80			0.64		0.08		0.08			
v/c Ratio	0.12	0.15			0.22		0.46		0.16			
Control Delay	2.2	1.7			8.4		57.4		1.5			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	2.2	1.7			8.4		57.4		1.5			
LOS	A	A			A		E		A			
Approach Delay		1.8			8.4							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 5 (4%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 10.6
 Intersection LOS: B
 Intersection Capacity Utilization 41.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Intersection

Int Delay, s/veh 3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	25	147	323	26	139	302
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	155	340	27	146	318

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	965	354	0	0	367	0
Stage 1	354	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	283	690	-	-	1192	-
Stage 1	710	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	248	690	-	-	1192	-
Mov Cap-2 Maneuver	366	-	-	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	611	1192	-
HCM Lane V/C Ratio	-	-	0.296	0.123	-
HCM Control Delay (s)	-	-	13.4	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.4	-

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	74	225	46	71	253	36	42	83	47	27	93	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.986			0.963			0.958	
Flt Protected		0.989			0.990			0.988			0.992	
Satd. Flow (prot)	0	1809	0	0	1818	0	0	1772	0	0	1770	0
Flt Permitted		0.844			0.860			0.789			0.894	
Satd. Flow (perm)	0	1544	0	0	1580	0	0	1415	0	0	1595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			9			20			24	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	78	237	48	75	266	38	44	87	49	28	98	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	363	0	0	379	0	0	180	0	0	183	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

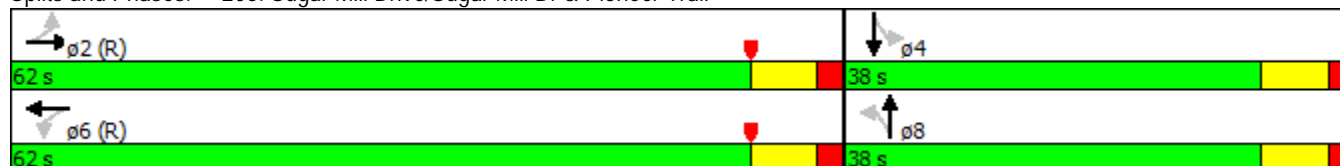


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	62.0	62.0		62.0	62.0		38.0	38.0		38.0	38.0	
Total Split (%)	62.0%	62.0%		62.0%	62.0%		38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	55.0	55.0		55.0	55.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		68.8			68.8			17.2			17.2	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
v/c Ratio		0.34			0.35			0.69			0.62	
Control Delay		7.6			7.7			48.6			42.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.6			7.7			48.6			42.6	
LOS		A			A			D			D	
Approach Delay		7.6			7.7			48.6			42.6	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 20.1
 Intersection LOS: C
 Intersection Capacity Utilization 52.8%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	156	9	4	167	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	164	9	4	176	5	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	164
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1414
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1414
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	700	-	-	1414	-
HCM Lane V/C Ratio	0.011	-	-	0.003	-
HCM Control Delay (s)	10.2	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	115	40	92	122	43	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	121	42	97	128	45	100

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	163
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1416
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1416
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	733	-	-	1416	-
HCM Lane V/C Ratio	0.198	-	-	0.068	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.2	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	787	22	46	861	51	14	17	24	58	39	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.874
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.833			0.833		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1552	1863	1583	1552	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167			167			167			164
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	93	828	23	48	906	54	15	18	25	61	41	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	828	23	48	906	54	15	18	25	61	259	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2		4		4		8

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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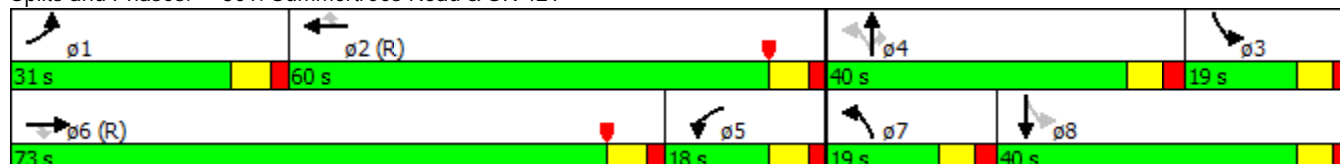


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	31.0	73.0	73.0	18.0	60.0	60.0	19.0	40.0	40.0	19.0	40.0	
Total Split (%)	20.7%	48.7%	48.7%	12.0%	40.0%	40.0%	12.7%	26.7%	26.7%	12.7%	26.7%	
Maximum Green (s)	24.5	66.5	66.5	11.5	53.5	53.5	12.5	33.5	33.5	12.5	33.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	13.2	96.9	96.9	10.6	91.6	91.6	9.2	10.0	10.0	19.9	19.9	
Actuated g/C Ratio	0.09	0.65	0.65	0.07	0.61	0.61	0.06	0.07	0.07	0.13	0.13	
v/c Ratio	0.60	0.69	0.02	0.39	0.80	0.05	0.14	0.15	0.10	0.27	0.72	
Control Delay	81.0	24.7	0.0	53.8	23.0	0.1	69.2	68.9	0.8	60.2	34.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.0	24.7	0.0	53.8	23.0	0.1	69.2	68.9	0.8	60.2	34.3	
LOS	F	C	A	D	C	A	E	E	A	E	C	
Approach Delay		29.7			23.2			39.6			39.2	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 114 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 28.4
 Intersection LOS: C
 Intersection Capacity Utilization 82.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↔		↔↔	↕↕	↔	↔↔	↕↕	↔↔	↔↔	↔↔	↕↔
Volume (vph)	51	704	114	706	914	589	95	272	513	705	708	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.979				0.850			0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3465	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4979	0	3433	3539	1583	3433	3539	2787	3433	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				91			149			12
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	54	741	120	743	962	620	100	286	540	742	745	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	861	0	743	962	620	100	286	540	742	864	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

2022 B1P
6/19/2015

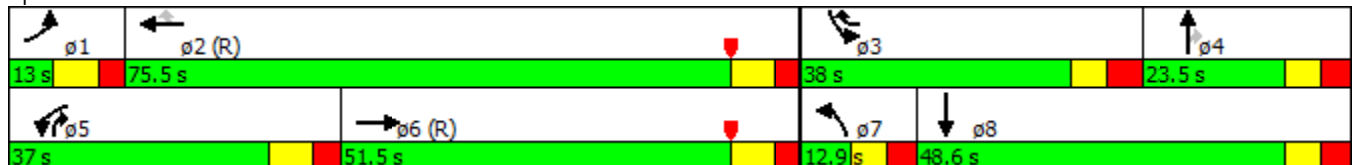


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	13.0	51.5		37.0	75.5	38.0	12.9	23.5	37.0	38.0		48.6
Total Split (%)	8.7%	34.3%		24.7%	50.3%	25.3%	8.6%	15.7%	24.7%	25.3%		32.4%
Maximum Green (s)	5.0	43.5		29.0	67.5	30.0	5.4	16.0	29.0	30.0		41.1
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effect Green (s)	5.2	43.5		29.6	70.7	108.7	5.4	15.4	52.5	30.0		40.5
Actuated g/C Ratio	0.03	0.29		0.20	0.47	0.72	0.04	0.10	0.35	0.20		0.27
v/c Ratio	0.46	0.59		1.10	0.58	0.53	0.81	0.79	0.50	1.08		0.91
Control Delay	103.4	31.2		111.2	21.6	14.0	113.1	81.4	29.0	113.6		67.0
Queue Delay	0.0	0.0		0.0	1.0	1.6	0.0	0.0	0.6	8.1		0.0
Total Delay	103.4	31.2		111.2	22.5	15.6	113.1	81.4	29.6	121.7		67.0
LOS	F	C		F	C	B	F	F	C	F		E
Approach Delay		35.5			49.0			54.6				92.3
Approach LOS		D			D			D				F

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 124 (83%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 59.8
 Intersection LOS: E
 Intersection Capacity Utilization 91.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2022 B1P
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↗↘	↑↑					↗↘		↗↘
Volume (vph)	0	1794	128	306	1862	0	0	0	0	608	0	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.990										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5034	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5034	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10										87
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	1888	135	322	1960	0	0	0	0	640	0	365
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2023	0	322	1960	0	0	0	0	640	0	365
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2022 B1P
 6/19/2015

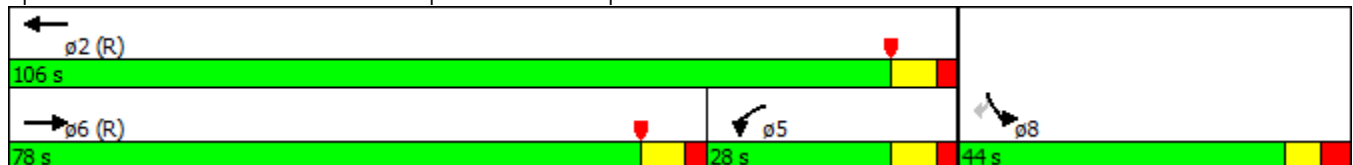


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		78.0		28.0	106.0					44.0		44.0
Total Split (%)		52.0%		18.7%	70.7%					29.3%		29.3%
Maximum Green (s)		70.5		20.5	98.5					36.5		36.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lead		Lag								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		73.8		20.5	101.8					33.2		33.2
Actuated g/C Ratio		0.49		0.14	0.68					0.22		0.22
v/c Ratio		0.82		0.69	0.82					0.84		0.53
Control Delay		34.1		47.1	9.6					66.8		41.3
Queue Delay		4.1		0.0	0.1					0.0		0.0
Total Delay		38.2		47.1	9.6					66.8		41.3
LOS		D		D	A					E		D
Approach Delay		38.2			14.9							
Approach LOS		D			B							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 66 (44%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 31.8
 Intersection LOS: C
 Intersection Capacity Utilization 82.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2022 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗			↖↖↖	↖	↖		↖↖			
Volume (vph)	264	2138	0	0	2060	538	108	0	244	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						438			87			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	278	2251	0	0	2168	566	114	0	257	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	278	2251	0	0	2168	566	114	0	257	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2022 B1P
 6/19/2015

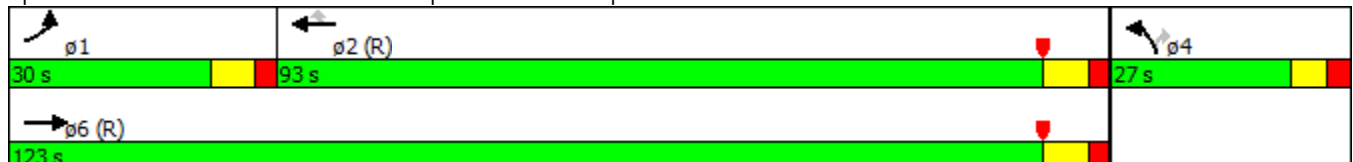


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	30.0	123.0			93.0	93.0	27.0		27.0			
Total Split (%)	20.0%	82.0%			62.0%	62.0%	18.0%		18.0%			
Maximum Green (s)	22.5	115.5			85.5	85.5	20.0		20.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	17.4	120.5			95.6	95.6	15.0		15.0			
Actuated g/C Ratio	0.12	0.80			0.64	0.64	0.10		0.10			
v/c Ratio	0.70	0.55			0.67	0.48	0.65		0.72			
Control Delay	83.9	3.1			4.2	1.6	81.3		54.5			
Queue Delay	0.0	0.4			0.2	0.5	0.0		0.0			
Total Delay	83.9	3.5			4.4	2.0	81.3		54.5			
LOS	F	A			A	A	F		D			
Approach Delay	12.3				3.9							
Approach LOS	B				A							

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 96 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 11.6
 Intersection LOS: B
 Intersection Capacity Utilization 82.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 B1P
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	1769	613	59	2598	0	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		336				141
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	1862	645	62	2735	0	318
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1862	645	62	2735	0	318
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

Lanes, Volumes, Timings
305: Taylor Road & SR 421

2022 B1P
6/19/2015

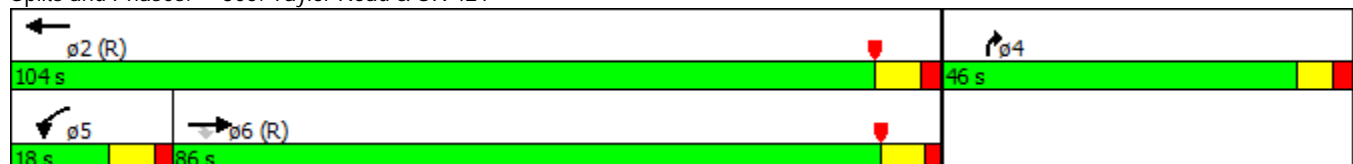


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	86.0	86.0	18.0	104.0		46.0
Total Split (%)	57.3%	57.3%	12.0%	69.3%		30.7%
Maximum Green (s)	79.0	79.0	11.0	96.5		39.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	98.2	98.2	10.6	112.6		23.4
Actuated g/C Ratio	0.65	0.65	0.07	0.75		0.16
v/c Ratio	0.56	0.56	0.50	0.72		0.86
Control Delay	7.4	4.7	89.7	3.1		54.9
Queue Delay	0.1	0.2	0.0	0.0		0.0
Total Delay	7.5	4.8	89.7	3.1		54.9
LOS	A	A	F	A		D
Approach Delay	6.8			5.0		
Approach LOS	A			A		

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 91 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 8.6
 Intersection LOS: A
 Intersection Capacity Utilization 64.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	1423	60	190	1756	192	359	49	75	250	111	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.994			0.985				0.850		0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5055	0	1770	5009	0	3433	1863	1583	1770	3337	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5055	0	1770	5009	0	3433	1863	1583	1770	3337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			16				258		71	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	200	1498	63	200	1848	202	378	52	79	263	117	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1561	0	200	2050	0	378	52	79	263	189	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
 306: Yorktowne Boulevard & SR 421

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 6/19/2015

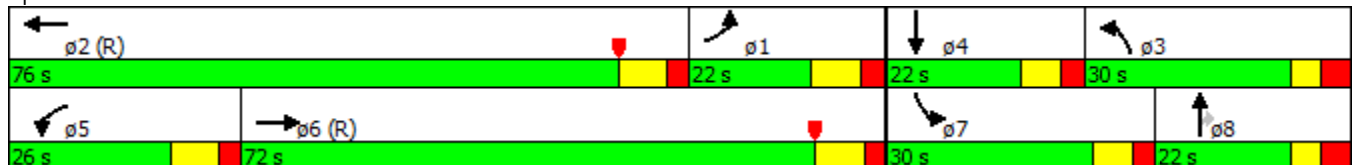


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	22.0	72.0		26.0	76.0		30.0	22.0	22.0	30.0	22.0	
Total Split (%)	14.7%	48.0%		17.3%	50.7%		20.0%	14.7%	14.7%	20.0%	14.7%	
Maximum Green (s)	13.5	64.0		18.0	68.0		23.0	15.0	15.0	23.0	15.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	13.5	65.0		20.4	71.4		23.1	11.6	11.6	23.0	11.5	
Actuated g/C Ratio	0.09	0.43		0.14	0.48		0.15	0.08	0.08	0.15	0.08	
v/c Ratio	1.26	0.71		0.83	0.86		0.72	0.36	0.22	0.97	0.59	
Control Delay	191.9	16.9		56.7	29.4		68.8	72.2	1.4	109.8	48.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	191.9	16.9		56.7	29.4		68.8	72.2	1.4	109.8	48.9	
LOS	F	B		E	C		E	E	A	F	D	
Approach Delay		36.8			31.8			58.7			84.4	
Approach LOS		D			C			E			F	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 75 (50%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.26
 Intersection Signal Delay: 41.1
 Intersection LOS: D
 Intersection Capacity Utilization 96.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	387	1269	92	32	1469	237	312	314	62	289	382	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.990				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5034	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5034	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				227		14				200
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	407	1336	97	34	1546	249	328	331	65	304	402	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	407	1433	0	34	1546	249	328	396	0	304	402	353
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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6/19/2015

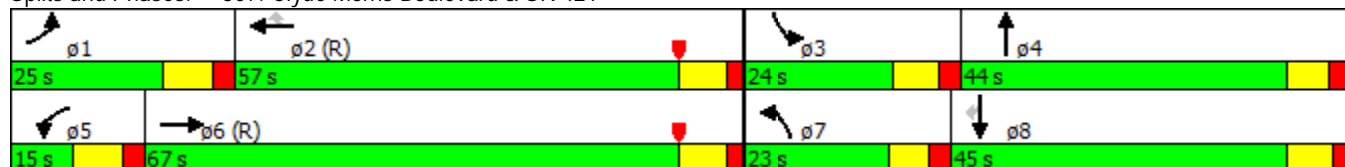


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	25.0	67.0		15.0	57.0	57.0	23.0	44.0		24.0	45.0	45.0
Total Split (%)	16.7%	44.7%		10.0%	38.0%	38.0%	15.3%	29.3%		16.0%	30.0%	30.0%
Maximum Green (s)	17.0	59.5		7.0	49.5	49.5	16.0	36.5		16.5	37.5	37.5
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effct Green (s)	18.5	63.9		7.0	49.5	49.5	16.0	35.4		16.0	36.0	36.0
Actuated g/C Ratio	0.12	0.43		0.05	0.33	0.33	0.11	0.24		0.11	0.24	0.24
v/c Ratio	0.96	0.67		0.41	0.92	0.37	0.90	0.48		0.83	0.90	0.66
Control Delay	74.1	23.4		84.8	58.3	7.5	92.9	49.5		84.6	78.9	27.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	74.1	23.4		84.8	58.3	7.5	92.9	49.5		84.6	78.9	27.9
LOS	E	C		F	E	A	F	D		F	E	C
Approach Delay		34.6			51.9			69.2			63.6	
Approach LOS		C			D			E			E	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	50.6
Intersection LOS:	D
Intersection Capacity Utilization:	93.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	327	106	72	406	0	0	0	0	0	0	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	344	112	76	427	0	0	0	0	0	0	77

Major/Minor

	Major1			Major2			Minor2		
Conflicting Flow All	427	0	0	456	0	0	751	1035	214
Stage 1	-	-	-	-	-	-	579	579	-
Stage 2	-	-	-	-	-	-	172	456	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1129	-	-	1101	-	-	347	230	791
Stage 1	-	-	-	-	-	-	524	499	-
Stage 2	-	-	-	-	-	-	841	567	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1129	-	-	1101	-	-	323	0	791
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	0	-
Stage 1	-	-	-	-	-	-	488	0	-
Stage 2	-	-	-	-	-	-	841	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	1.3	10
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1129	-	-	1101	-	-	791
HCM Lane V/C Ratio	-	-	-	0.069	-	-	0.097
HCM Control Delay (s)	0	-	-	8.5	-	-	10
HCM Lane LOS	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0.3

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2022 B2P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	408	0	0	355	115	123	0	33	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.963				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3408	0	3433	0	1583	0	0	0
Fl _t Permitted	0.469						0.950					
Satd. Flow (perm)	874	3539	0	0	3408	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					52				100			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		792			327			535			742	
Travel Time (s)		12.0			5.0			12.2			16.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	429	0	0	374	121	129	0	35	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	429	0	0	495	0	129	0	35	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2022 B2P
 6/19/2015

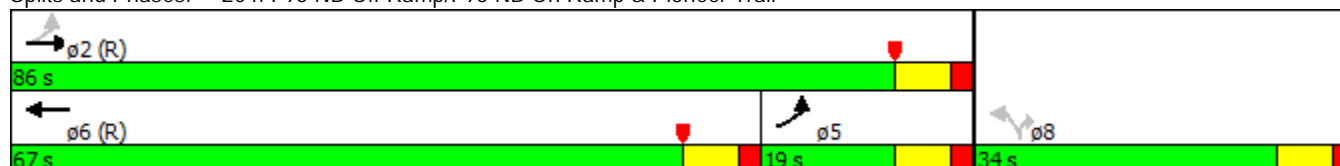


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	15.0			5.0		6.0		6.0			
Minimum Split (s)	13.0	23.0			23.0		23.0		23.0			
Total Split (s)	19.0	86.0			67.0		34.0		34.0			
Total Split (%)	15.8%	71.7%			55.8%		28.3%		28.3%			
Maximum Green (s)	12.0	79.0			60.0		27.0		27.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lag				Lead							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	96.1	96.1			77.1		9.9		9.9			
Actuated g/C Ratio	0.80	0.80			0.64		0.08		0.08			
v/c Ratio	0.12	0.15			0.22		0.46		0.16			
Control Delay	1.7	1.5			8.4		57.4		1.5			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	1.7	1.5			8.4		57.4		1.5			
LOS	A	A			A		E		A			
Approach Delay		1.6			8.4							
Approach LOS		A			A							

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	6 (5%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.46
Intersection Signal Delay:	10.5
Intersection LOS:	B
Intersection Capacity Utilization:	37.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2032 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	1174	96	474	555	61	89	257	524	59	420	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.985				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3452	0	1752	1845	1568	1752	1815	0
Flt Permitted	0.950			0.950			0.162			0.469		
Satd. Flow (perm)	1752	3505	1568	3400	3452	0	299	1845	1568	865	1815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101		12				345		5	
Link Speed (mph)		65		65			30		30		30	
Link Distance (ft)		2043		14703			1198		1442			
Travel Time (s)		21.4		154.2			27.2		32.8			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	1236	101	499	584	64	94	271	552	62	442	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	1236	101	499	648	0	94	271	552	62	496	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			12		12		12	
Link Offset(ft)		0		0			0		0		0	
Crosswalk Width(ft)		16		16			16		16		16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94		94			94		94		94	
Detector 2 Size(ft)		6		6			6		6		6	
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0		0.0		0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		8		8		4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		8	8	8	4	4	

Lanes, Volumes, Timings
 101: Tomoka Farms Road & SR 44

2032 B1P
 6/19/2015

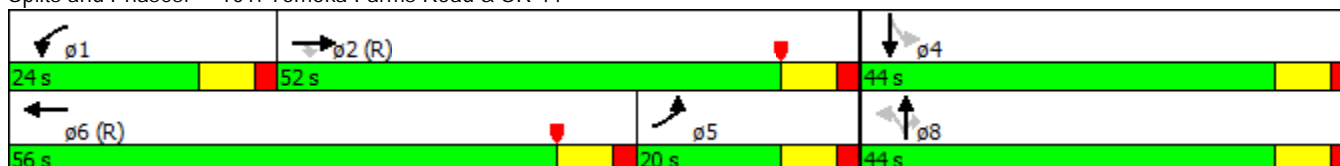


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		23.0	23.0	23.0	23.0	23.0	
Total Split (s)	20.0	52.0	52.0	24.0	56.0		44.0	44.0	44.0	44.0	44.0	
Total Split (%)	16.7%	43.3%	43.3%	20.0%	46.7%		36.7%	36.7%	36.7%	36.7%	36.7%	
Maximum Green (s)	13.0	45.0	45.0	17.0	49.0		37.0	37.0	37.0	37.0	37.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0	11.0		11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	
Act Effect Green (s)	13.0	45.0	45.0	17.0	49.0		37.0	37.0	37.0	37.0	37.0	
Actuated g/C Ratio	0.11	0.38	0.38	0.14	0.41		0.31	0.31	0.31	0.31	0.31	
v/c Ratio	0.49	0.94	0.16	1.04	0.46		1.02	0.48	0.76	0.23	0.88	
Control Delay	60.0	50.8	5.3	101.1	26.6		143.2	37.1	21.5	33.9	57.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	60.0	50.8	5.3	101.1	26.6		143.2	37.1	21.5	33.9	57.5	
LOS	E	D	A	F	C		F	D	C	C	E	
Approach Delay		48.2			59.0			38.6			54.9	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 50.0
 Intersection LOS: D
 Intersection Capacity Utilization 107.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: Williamson Blvd & SR 44

2032 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	1280	430	331	730	278	287	68	287	403	64	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		250	515		375	250		250	250		180
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.361			0.950			0.950			0.950		
Satd. Flow (perm)	666	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			299			293			203			203
Link Speed (mph)		65			65			30				30
Link Distance (ft)		8741			1490			520				509
Travel Time (s)		91.7			15.6			11.8				11.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	1347	453	348	768	293	302	72	302	424	67	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1347	453	348	768	293	302	72	302	424	67	92
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28			28			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4

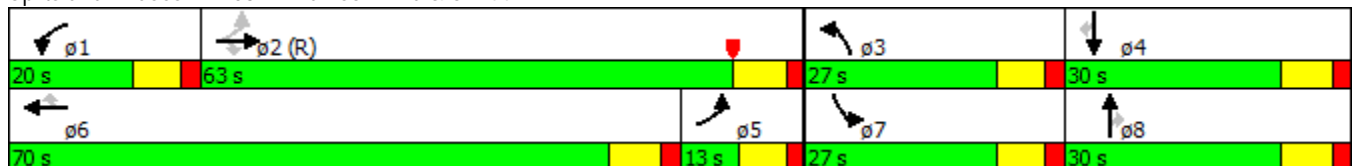


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0
Minimum Split (s)	12.0	23.5	23.5	12.0	36.5	36.5	12.0	36.5	36.5	12.0	23.5	23.5
Total Split (s)	13.0	63.0	63.0	20.0	70.0	70.0	27.0	30.0	30.0	27.0	30.0	30.0
Total Split (%)	9.3%	45.0%	45.0%	14.3%	50.0%	50.0%	19.3%	21.4%	21.4%	19.3%	21.4%	21.4%
Maximum Green (s)	6.0	55.5	55.5	13.0	62.5	62.5	20.0	22.5	22.5	20.0	22.5	22.5
Yellow Time (s)	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0		7.0	7.0			
Flash Dont Walk (s)					22.0	22.0		22.0	22.0			
Pedestrian Calls (#/hr)					0	0		0	0			
Act Effct Green (s)	56.0	55.5	55.5	17.8	67.3	67.3	17.2	18.1	18.1	19.6	20.5	20.5
Actuated g/C Ratio	0.40	0.40	0.40	0.13	0.48	0.48	0.12	0.13	0.13	0.14	0.15	0.15
v/c Ratio	0.29	0.97	0.56	0.81	0.46	0.32	0.72	0.30	0.80	0.89	0.25	0.23
Control Delay	27.5	53.3	10.3	70.9	18.0	3.9	69.3	57.9	35.4	80.5	55.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	53.3	10.3	70.9	18.0	3.9	69.3	57.9	35.4	80.5	55.4	1.3
LOS	C	D	B	E	B	A	E	E	D	F	E	A
Approach Delay		41.7			28.2			52.9			65.1	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	60 (43%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	42.2
Intersection LOS:	D
Intersection Capacity Utilization:	83.0%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 103: Williamson Blvd & SR 44



Intersection												
Int Delay, s/veh	2.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1530	440	118	1077	0	0	0	0	0	0	262
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	255	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	1083656192	-	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1611	463	124	1134	0	0	0	0	0	0	276

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	1134	0	0	1611	0	0	2187	2993	567
Stage 1	-	-	-	-	-	-	1382	1382	-
Stage 2	-	-	-	-	-	-	805	1611	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	606	-	-	397	-	-	38	13	464
Stage 1	-	-	-	-	-	-	196	208	-
Stage 2	-	-	-	-	-	-	398	160	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	606	-	-	397	-	-	26	0	464
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	0	-
Stage 1	-	-	-	-	-	-	135	0	-
Stage 2	-	-	-	-	-	-	398	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.8	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	-	-	397	-	-	464
HCM Lane V/C Ratio	-	-	-	0.313	-	-	0.594
HCM Control Delay (s)	0	-	-	18.1	-	-	23.5
HCM Lane LOS	A	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0	-	-	1.3	-	-	3.8

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Volume (vph)	292	1911	0	0	886	481	309	0	168	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3400	0	1568	0	0	0
Fl _t Permitted	0.244						0.950					
Satd. Flow (perm)	450	3505	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						506			90			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			2337			678				629
Travel Time (s)		5.5			29.0			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	307	2012	0	0	933	506	325	0	177	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	2012	0	0	933	506	325	0	177	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases	6					2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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 6/19/2015

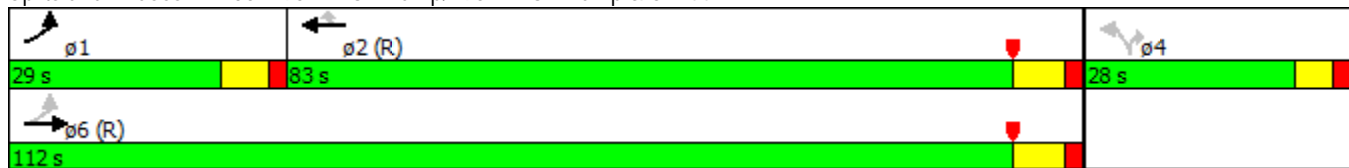


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	29.0	112.0			83.0	83.0	28.0		28.0			
Total Split (%)	20.7%	80.0%			59.3%	59.3%	20.0%		20.0%			
Maximum Green (s)	22.0	104.5			75.5	75.5	21.9		21.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	107.8	107.3			87.4	87.4	19.1		19.1			
Actuated g/C Ratio	0.77	0.77			0.62	0.62	0.14		0.14			
v/c Ratio	0.66	0.75			0.43	0.43	0.70		0.61			
Control Delay	10.4	5.7			11.6	1.6	65.9		36.3			
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0			
Total Delay	10.4	5.7			11.6	1.6	65.9		36.3			
LOS	B	A			B	A	E		D			
Approach Delay		6.4			8.1							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 134 (96%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 12.7
 Intersection LOS: B
 Intersection Capacity Utilization 74.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↖	↗
Volume (vph)	212	1867	1224	83	84	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.155				0.950	
Satd. Flow (perm)	286	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				65		151
Link Speed (mph)		55	55		45	
Link Distance (ft)		2337	522		572	
Travel Time (s)		29.0	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	223	1965	1288	87	88	151
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	1965	1288	87	88	151
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	31.0	115.0	84.0	84.0	25.0	25.0
Total Split (%)	22.1%	82.1%	60.0%	60.0%	17.9%	17.9%
Maximum Green (s)	23.5	107.5	76.5	76.5	18.3	18.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	112.5	112.5	93.3	93.3	13.3	13.3
Actuated g/C Ratio	0.80	0.80	0.67	0.67	0.10	0.10
v/c Ratio	0.63	0.70	0.55	0.08	0.53	0.53
Control Delay	20.8	2.9	14.6	4.0	71.3	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	2.9	14.6	4.0	71.3	15.3
LOS	C	A	B	A	E	B
Approach Delay		4.7	13.9		35.9	
Approach LOS		A	B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 2 (1%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 10.0
 Intersection LOS: A
 Intersection Capacity Utilization 68.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

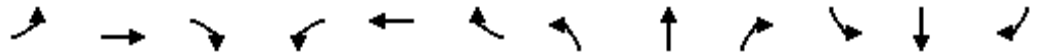
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	271	248	39	24	221	221	24	151	31	245	167	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	1		0	1		0	0		1	1		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.980			0.925				0.850			0.850
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1770	1825	0	1770	1723	0	0	1850	1583	1770	3539	1583
Flt Permitted	0.241			0.576				0.993		0.950		
Satd. Flow (perm)	449	1825	0	1073	1723	0	0	1850	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			42				210			289
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	285	261	41	25	233	233	25	159	33	258	176	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	302	0	25	466	0	0	184	33	258	176	289
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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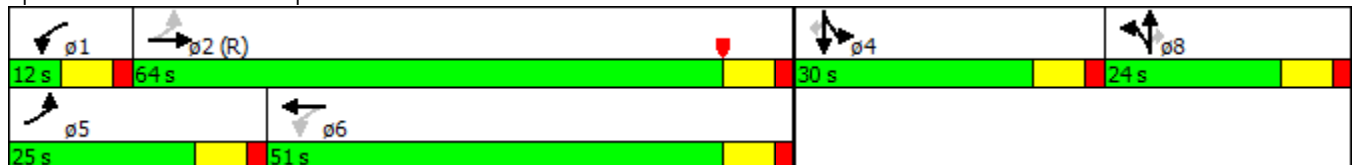


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	64.0		12.0	51.0		24.0	24.0	24.0	30.0	30.0	30.0
Total Split (%)	19.2%	49.2%		9.2%	39.2%		18.5%	18.5%	18.5%	23.1%	23.1%	23.1%
Maximum Green (s)	18.0	57.0		5.0	44.0		17.0	17.0	17.0	23.0	23.0	23.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	Max		None	None	None	None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	0
Act Effct Green (s)	71.3	64.1		53.7	48.4		15.9	15.9	21.8	21.8	21.8	21.8
Actuated g/C Ratio	0.55	0.49		0.41	0.37		0.12	0.12	0.17	0.17	0.17	0.17
v/c Ratio	0.70	0.33		0.05	0.70		0.81	0.09	0.87	0.30	0.57	0.57
Control Delay	26.3	22.6		8.8	24.7		82.2	0.5	80.3	48.4	10.0	10.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	22.6		8.8	24.7		82.2	0.5	80.3	48.4	10.0	10.0
LOS	C	C		A	C		F	A	F	D	A	A
Approach Delay		24.4			23.9		69.8				44.4	
Approach LOS		C			C		E				D	

Intersection Summary

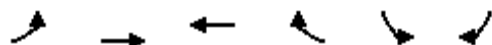
Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 15 (12%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 85
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 36.3
 Intersection LOS: D
 Intersection Capacity Utilization 86.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail



Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 B1P
6/19/2015



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	139	385	346	458	377	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	25				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	1863	1583	1770	1583
Fl _t Permitted	0.414				0.950	
Satd. Flow (perm)	771	3539	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				482		126
Link Speed (mph)		45	45		35	
Link Distance (ft)		609	1444		1084	
Travel Time (s)		9.2	21.9		21.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	146	405	364	482	397	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	405	364	482	397	126
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4

Lanes, Volumes, Timings
202: Pioneer Trail & Williamson Boulevard

2032 B1P
6/19/2015

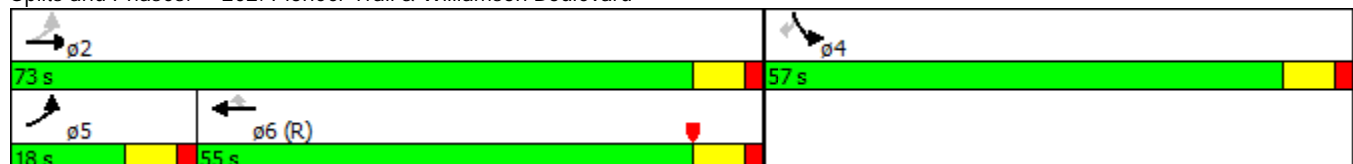


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	15.0	15.0	5.0	5.0
Minimum Split (s)	12.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	18.0	73.0	55.0	55.0	57.0	57.0
Total Split (%)	13.8%	56.2%	42.3%	42.3%	43.8%	43.8%
Maximum Green (s)	11.0	66.0	48.0	48.0	50.0	50.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	None	None
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effect Green (s)	80.8	80.8	63.6	63.6	35.2	35.2
Actuated g/C Ratio	0.62	0.62	0.49	0.49	0.27	0.27
v/c Ratio	0.26	0.18	0.40	0.47	0.83	0.24
Control Delay	9.1	8.2	22.0	8.6	58.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	8.2	22.0	8.6	58.9	6.2
LOS	A	A	C	A	E	A
Approach Delay		8.4	14.3		46.2	
Approach LOS		A	B		D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 127 (98%), Referenced to phase 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 21.3
 Intersection LOS: C
 Intersection Capacity Utilization 64.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 202: Pioneer Trail & Williamson Boulevard



Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2032 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑					↖↖		↖
Volume (vph)	0	534	228	155	650	0	0	0	0	366	0	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	0		0	0		250
Storage Lanes	0		0	1		0	0		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Fr _t		0.955										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	3380	0	1770	3539	0	0	0	0	3433	0	1583
Fl _t Permitted				0.287						0.950		
Satd. Flow (perm)	0	3380	0	535	3539	0	0	0	0	3433	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66										162
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1444			1065			541				728
Travel Time (s)		21.9			16.1			12.3				16.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	562	240	163	684	0	0	0	0	385	0	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	802	0	163	684	0	0	0	0	385	0	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases				6						4		4

Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2032 B1P
 6/19/2015

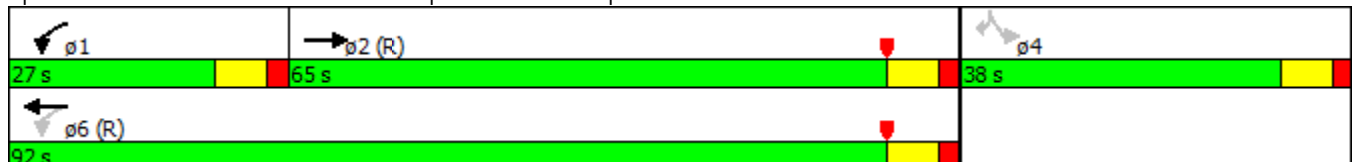


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2		1	6					4		4
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					5.0		5.0
Minimum Split (s)		23.0		12.0	23.0					23.0		23.0
Total Split (s)		65.0		27.0	92.0					38.0		38.0
Total Split (%)		50.0%		20.8%	70.8%					29.2%		29.2%
Maximum Green (s)		58.0		20.0	85.0					31.0		31.0
Yellow Time (s)		5.0		5.0	5.0					5.0		5.0
All-Red Time (s)		2.0		2.0	2.0					2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.0		7.0	7.0					7.0		7.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)		5.0			5.0					5.0		5.0
Flash Dont Walk (s)		11.0			11.0					11.0		11.0
Pedestrian Calls (#/hr)		0			0					0		0
Act Effect Green (s)		79.9		96.0	96.0					20.0		20.0
Actuated g/C Ratio		0.61		0.74	0.74					0.15		0.15
v/c Ratio		0.38		0.34	0.26					0.73		0.43
Control Delay		3.7		6.3	4.1					60.5		10.2
Queue Delay		0.0		0.0	0.0					0.0		0.0
Total Delay		3.7		6.3	4.1					60.5		10.2
LOS		A		A	A					E		B
Approach Delay		3.7			4.5							
Approach LOS		A			A							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 14.4
 Intersection LOS: B
 Intersection Capacity Utilization 58.6%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail



Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2032 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	188	712	0	0	542	241	263	0	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.954				0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3376	0	3433	0	1583	0	0	0
Flt Permitted	0.286						0.950					
Satd. Flow (perm)	533	3539	0	0	3376	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					72				92			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1065			327			535				742
Travel Time (s)		16.1			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	198	749	0	0	571	254	277	0	77	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	749	0	0	825	0	277	0	77	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2032 B1P
 6/19/2015

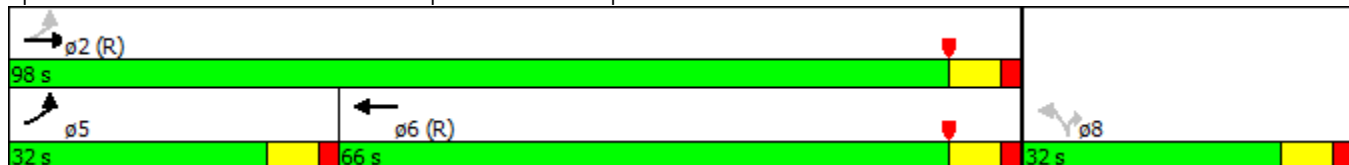


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6		8		8			
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	32.0	98.0			66.0		32.0		32.0			
Total Split (%)	24.6%	75.4%			50.8%		24.6%		24.6%			
Maximum Green (s)	25.0	91.0			59.0		25.0		25.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	100.2	100.2			83.8		15.8		15.8			
Actuated g/C Ratio	0.77	0.77			0.64		0.12		0.12			
v/c Ratio	0.40	0.27			0.37		0.67		0.28			
Control Delay	6.3	1.1			10.8		62.3		9.2			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	6.3	1.1			10.8		62.3		9.2			
LOS	A	A			B		E		A			
Approach Delay		2.2			10.8							
Approach LOS		A			B							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 7 (5%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 13.6
 Intersection LOS: B
 Intersection Capacity Utilization 58.6%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Intersection

Int Delay, s/veh 5.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	228	555	28	218	567
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	240	584	29	229	597

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1655	599	0 0 614 0
Stage 1	599	-	- - - -
Stage 2	1056	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	108	502	- - 965 -
Stage 1	549	-	- - - -
Stage 2	335	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	82	502	- - 965 -
Mov Cap-2 Maneuver	191	-	- - - -
Stage 1	549	-	- - - -
Stage 2	256	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	26.5	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 428	965	-
HCM Lane V/C Ratio	-	- 0.627	0.238	-
HCM Control Delay (s)	-	- 26.5	9.9	-
HCM Lane LOS	-	- D	A	-
HCM 95th %tile Q(veh)	-	- 4.2	0.9	-

Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2032 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	117	390	87	73	469	37	43	84	66	30	98	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.991			0.954			0.952	
Flt Protected		0.990			0.994			0.989			0.992	
Satd. Flow (prot)	0	1807	0	0	1835	0	0	1758	0	0	1759	0
Flt Permitted		0.776			0.854			0.832			0.914	
Satd. Flow (perm)	0	1417	0	0	1576	0	0	1479	0	0	1621	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			6			22			24	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	123	411	92	77	494	39	45	88	69	32	103	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	626	0	0	610	0	0	202	0	0	210	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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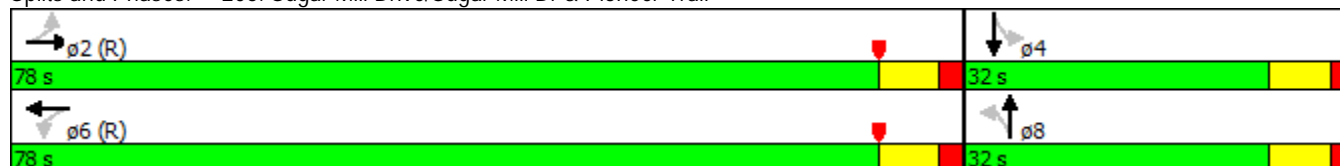


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	78.0	78.0		78.0	78.0		32.0	32.0		32.0	32.0	
Total Split (%)	70.9%	70.9%		70.9%	70.9%		29.1%	29.1%		29.1%	29.1%	
Maximum Green (s)	71.0	71.0		71.0	71.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		71.0			71.0			25.0			25.0	
Actuated g/C Ratio		0.65			0.65			0.23			0.23	
v/c Ratio		0.68			0.60			0.57			0.54	
Control Delay		16.7			14.2			40.8			39.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.7			14.2			40.8			39.1	
LOS		B			B			D			D	
Approach Delay		16.7			14.2			40.8			39.1	
Approach LOS		B			B			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 78 (71%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 21.6
 Intersection LOS: C
 Intersection Capacity Utilization 79.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	237	9	4	250	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	249	9	4	263	5	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	249
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1317
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1317
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	591	-	-	1317	-
HCM Lane V/C Ratio	0.014	-	-	0.003	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	130	52	152	138	57	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	55	160	145	60	164

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	192
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1381
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1381
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	659	-	-	1381	-
HCM Lane V/C Ratio	0.34	-	-	0.116	-
HCM Control Delay (s)	13.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.4	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	849	24	57	997	65	17	19	28	77	43	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.874
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.238			0.625		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	443	1863	1583	1164	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			120			159
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	111	894	25	60	1049	68	18	20	29	81	45	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	894	25	60	1049	68	18	20	29	81	278	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	16.0	84.5	84.5	13.5	82.0	82.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.7%	56.3%	56.3%	9.0%	54.7%	54.7%	8.3%	26.3%	26.3%	8.3%	26.3%	
Maximum Green (s)	9.5	78.0	78.0	7.0	75.5	75.5	6.0	33.0	33.0	6.0	33.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	16.1	92.6	92.6	10.5	86.9	86.9	21.5	17.5	17.5	23.6	20.0	
Actuated g/C Ratio	0.11	0.62	0.62	0.07	0.58	0.58	0.14	0.12	0.12	0.16	0.13	
v/c Ratio	0.59	0.78	0.02	0.49	0.97	0.07	0.16	0.09	0.10	0.39	0.79	
Control Delay	76.8	29.9	0.0	80.1	53.1	0.1	47.6	55.8	0.7	55.3	41.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.8	29.9	0.0	80.1	53.1	0.1	47.6	55.8	0.7	55.3	41.8	
LOS	E	C	A	F	D	A	D	E	A	E	D	
Approach Delay		34.3			51.5			29.7			44.9	
Approach LOS		C			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 43.3
 Intersection LOS: D
 Intersection Capacity Utilization 90.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	736	130	819	967	816	112	493	527	1041	1109	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3468	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				76			124			10
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	93	775	137	862	1018	859	118	519	555	1096	1167	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	912	0	862	1018	859	118	519	555	1096	1345	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3		8
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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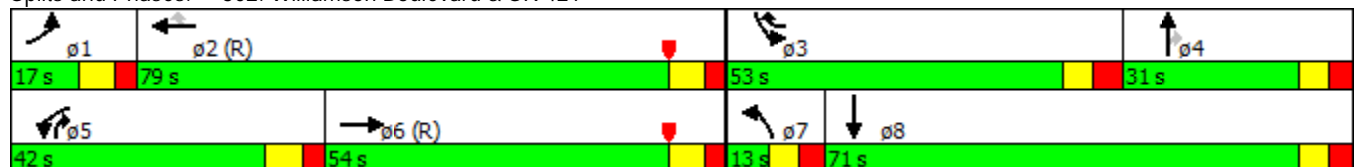


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	17.0	54.0		42.0	79.0	53.0	13.0	31.0	42.0	53.0		71.0
Total Split (%)	9.4%	30.0%		23.3%	43.9%	29.4%	7.2%	17.2%	23.3%	29.4%		39.4%
Maximum Green (s)	9.0	46.0		34.0	71.0	45.0	5.5	23.5	34.0	45.0		63.5
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effct Green (s)	8.7	46.0		34.0	71.3	124.3	5.5	23.5	65.0	45.0		63.5
Actuated g/C Ratio	0.05	0.26		0.19	0.40	0.69	0.03	0.13	0.36	0.25		0.35
v/c Ratio	0.56	0.71		1.33	0.73	0.77	1.13	1.12	0.51	1.28		1.09
Control Delay	97.2	63.2		207.6	55.6	15.3	200.5	147.2	36.1	185.4		108.1
Queue Delay	0.0	0.1		0.0	5.2	3.8	0.0	0.0	0.0	1.3		0.0
Total Delay	97.2	63.3		207.6	60.8	19.1	200.5	147.2	36.1	186.7		108.1
LOS	F	E		F	E	B	F	F	D	F		F
Approach Delay		66.5			93.9			100.8				143.4
Approach LOS		E			F			F				F

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 169 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.33
 Intersection Signal Delay: 107.6
 Intersection LOS: F
 Intersection Capacity Utilization 110.1%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2032 B1P
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2124	180	349	2170	0	0	0	0	626	0	432
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.988										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5024	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5024	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2236	189	367	2284	0	0	0	0	659	0	455
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2425	0	367	2284	0	0	0	0	659	0	455
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

2032 B1P
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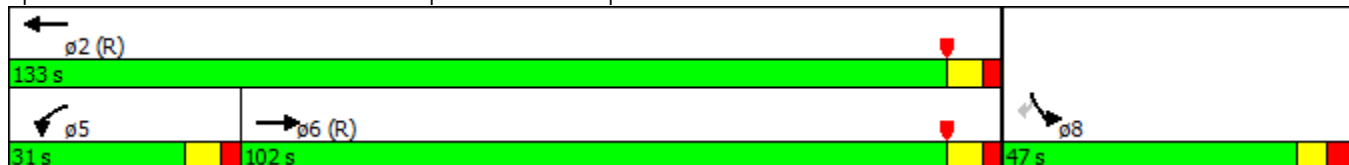


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		102.0		31.0	133.0					47.0		47.0
Total Split (%)		56.7%		17.2%	73.9%					26.1%		26.1%
Maximum Green (s)		94.5		23.5	125.5					39.5		39.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		96.9		22.4	126.8					38.2		38.2
Actuated g/C Ratio		0.54		0.12	0.70					0.21		0.21
v/c Ratio		0.90		0.86	0.92					0.91		0.70
Control Delay		24.9		116.8	14.4					85.8		61.0
Queue Delay		46.0		0.0	1.0					0.0		0.4
Total Delay		70.9		116.8	15.4					85.8		61.4
LOS		E		F	B					F		E
Approach Delay		70.9			29.4							
Approach LOS		E			C							

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	67 (37%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	54.0
Intersection LOS:	D
Intersection Capacity Utilization:	91.6%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2032 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↗	↑↑↑			↑↑↑	↗	↘		↗↗			
Volume (vph)	329	2421	0	0	2340	552	179	0	254	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						325			73			
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		552			713			654			558	
Travel Time (s)		7.5			9.7			14.9			12.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	346	2548	0	0	2463	581	188	0	267	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	346	2548	0	0	2463	581	188	0	267	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2032 B1P
 6/19/2015

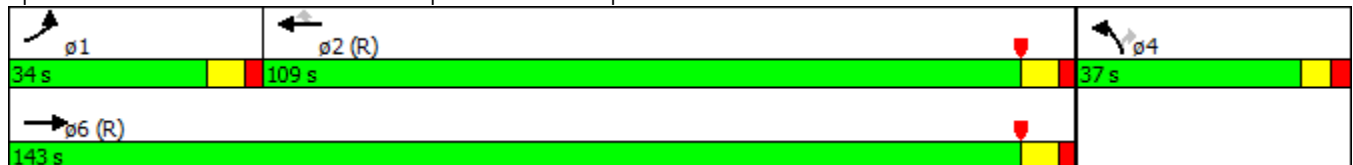


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	34.0	143.0			109.0	109.0	37.0		37.0			
Total Split (%)	18.9%	79.4%			60.6%	60.6%	20.6%		20.6%			
Maximum Green (s)	26.5	135.5			101.5	101.5	30.0		30.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	22.9	141.6			111.3	111.3	23.9		23.9			
Actuated g/C Ratio	0.13	0.79			0.62	0.62	0.13		0.13			
v/c Ratio	0.79	0.64			0.78	0.53	0.80		0.62			
Control Delay	72.0	7.8			5.7	1.9	99.7		58.8			
Queue Delay	0.0	1.2			0.6	0.8	0.4		0.0			
Total Delay	72.0	9.0			6.3	2.6	100.1		58.8			
LOS	E	A			A	A	F		E			
Approach Delay	16.5				5.6							
Approach LOS	B				A							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 56 (31%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 15.5
 Intersection LOS: B
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2032 B1P
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	1966	709	65	2892	0	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		306				166
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2069	746	68	3044	0	358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2069	746	68	3044	0	358
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				

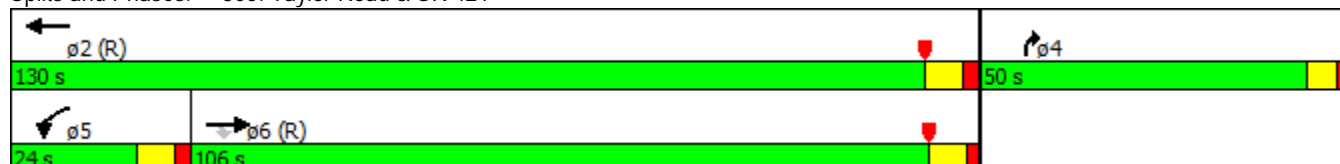


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	106.0	106.0	24.0	130.0		50.0
Total Split (%)	58.9%	58.9%	13.3%	72.2%		27.8%
Maximum Green (s)	99.0	99.0	17.0	122.5		43.5
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	118.0	118.0	12.3	136.8		29.2
Actuated g/C Ratio	0.66	0.66	0.07	0.76		0.16
v/c Ratio	0.62	0.65	0.57	0.79		0.90
Control Delay	16.5	10.2	116.1	4.4		63.3
Queue Delay	0.2	0.3	0.0	0.0		0.0
Total Delay	16.6	10.5	116.1	4.4		63.3
LOS	B	B	F	A		E
Approach Delay	15.0			6.9		
Approach LOS	B			A		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 53 (29%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 13.7
 Intersection LOS: B
 Intersection Capacity Utilization 70.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2032 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	203	1628	71	223	1927	230	410	56	85	285	128	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.994			0.984				0.850		0.944	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5055	0	1770	5004	0	3433	1863	1583	1770	3341	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5055	0	1770	5004	0	3433	1863	1583	1770	3341	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			14				167			62
Link Speed (mph)		50			50			40				40
Link Distance (ft)		1605			1766			596				539
Travel Time (s)		21.9			24.1			10.2				9.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	214	1714	75	235	2028	242	432	59	89	300	135	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	1789	0	235	2270	0	432	59	89	300	216	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
 306: Yorktowne Boulevard & SR 421

2032 B1P
 6/19/2015

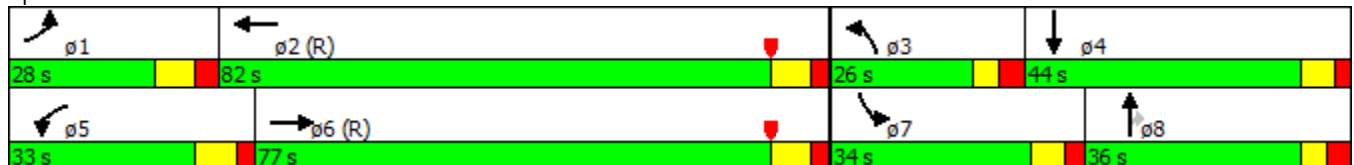


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	28.0	77.0		33.0	82.0		26.0	36.0	36.0	34.0	44.0	
Total Split (%)	15.6%	42.8%		18.3%	45.6%		14.4%	20.0%	20.0%	18.9%	24.4%	
Maximum Green (s)	19.5	69.0		25.0	74.0		19.0	29.0	29.0	27.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		3.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	33.4	79.4		31.8	77.3		19.0	11.8	11.8	27.0	19.8	
Actuated g/C Ratio	0.19	0.44		0.18	0.43		0.11	0.07	0.07	0.15	0.11	
v/c Ratio	0.65	0.80		0.75	1.05		1.19	0.48	0.34	1.13	0.51	
Control Delay	68.7	49.3		94.2	53.7		175.2	93.9	3.6	160.4	57.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	68.7	49.3		94.2	53.7		175.2	93.9	3.6	160.4	57.6	
LOS	E	D		F	D		F	F	A	F	E	
Approach Delay		51.3			57.5			140.6			117.3	
Approach LOS		D			E			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 176 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 69.4
 Intersection LOS: E
 Intersection Capacity Utilization 103.1%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1330	198	53	1674	272	375	377	75	294	435	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.981				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4989	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4989	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				195		12				195
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	495	1400	208	56	1762	286	395	397	79	309	458	389
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	1608	0	56	1762	286	395	476	0	309	458	389
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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6/19/2015

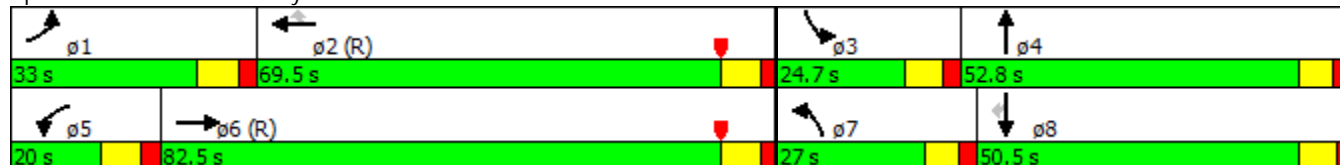


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	33.0	82.5		20.0	69.5	69.5	27.0	52.8		24.7	50.5	50.5
Total Split (%)	18.3%	45.8%		11.1%	38.6%	38.6%	15.0%	29.3%		13.7%	28.1%	28.1%
Maximum Green (s)	25.0	75.0		12.0	62.0	62.0	20.0	45.3		17.2	43.0	43.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	25.0	79.4		10.8	62.0	62.0	20.0	45.3		17.2	43.0	43.0
Actuated g/C Ratio	0.14	0.44		0.06	0.34	0.34	0.11	0.25		0.10	0.24	0.24
v/c Ratio	1.04	0.73		0.53	1.01	0.42	1.04	0.54		0.94	1.03	0.74
Control Delay	119.7	51.0		99.8	80.7	15.8	130.6	59.5		116.1	115.1	40.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	119.7	51.0		99.8	80.7	15.8	130.6	59.5		116.1	115.1	40.2
LOS	F	D		F	F	B	F	E		F	F	D
Approach Delay		67.1			72.4			91.8			90.1	
Approach LOS		E			E			F			F	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	152 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	76.6
Intersection LOS:	E
Intersection Capacity Utilization	104.3%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	534	228	155	650	0	0	0	0	0	0	154
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	562	240	163	684	0	0	0	0	0	0	162

Major/Minor

	Major1		Major2		Minor2				
Conflicting Flow All	684	0	0	802	0	0	1292	1813	342
Stage 1	-	-	-	-	-	-	1011	1011	-
Stage 2	-	-	-	-	-	-	281	802	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	905	-	-	817	-	-	155	78	654
Stage 1	-	-	-	-	-	-	312	315	-
Stage 2	-	-	-	-	-	-	741	395	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	905	-	-	817	-	-	124	0	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	0	-
Stage 1	-	-	-	-	-	-	250	0	-
Stage 2	-	-	-	-	-	-	741	0	-

Approach

	EB	WB	SB
HCM Control Delay, s	0	2	12.3
HCM LOS			B

Minor Lane/Major Mvmt

	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	905	-	-	817	-	-	654
HCM Lane V/C Ratio	-	-	-	0.2	-	-	0.248
HCM Control Delay (s)	0	-	-	10.5	-	-	12.3
HCM Lane LOS	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0.7	-	-	1

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2032 B2P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	712	0	0	542	241	263	0	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.954				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3376	0	3433	0	1583	0	0	0
Fl _t Permitted	0.286						0.950					
Satd. Flow (perm)	533	3539	0	0	3376	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					72				92			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		791			327			535				742
Travel Time (s)		12.0			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	198	749	0	0	571	254	277	0	77	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	749	0	0	825	0	277	0	77	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2032 B2P
 6/19/2015

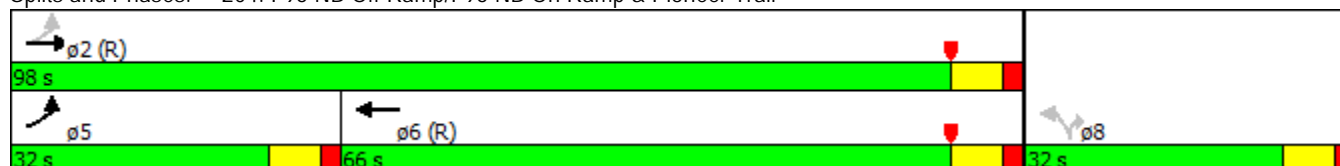


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	32.0	98.0			66.0		32.0		32.0			
Total Split (%)	24.6%	75.4%			50.8%		24.6%		24.6%			
Maximum Green (s)	25.0	91.0			59.0		25.0		25.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Min			C-Min		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	100.2	100.2			83.8		15.8		15.8			
Actuated g/C Ratio	0.77	0.77			0.64		0.12		0.12			
v/c Ratio	0.40	0.27			0.37		0.67		0.28			
Control Delay	4.8	2.0			10.8		62.3		9.2			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	4.8	2.0			10.8		62.3		9.2			
LOS	A	A			B		E		A			
Approach Delay		2.5			10.8							
Approach LOS		A			B							

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 8 (6%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 13.8
 Intersection LOS: B
 Intersection Capacity Utilization 55.6%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail



Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

2042 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	1449	149	604	620	83	130	326	672	84	534	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	490		390	590		0	225		230	160		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	50			100			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.982				0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3442	0	1752	1845	1568	1752	1811	0
Flt Permitted	0.950			0.950			0.098			0.302		
Satd. Flow (perm)	1752	3505	1568	3400	3442	0	181	1845	1568	557	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131		11				278			4
Link Speed (mph)		65			65			30				30
Link Distance (ft)		2043			14703			1198				1442
Travel Time (s)		21.4			154.2			27.2				32.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	123	1525	157	636	653	87	137	343	707	88	562	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	1525	157	636	740	0	137	343	707	88	638	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2				8		8	4		
Detector Phase	5	2	2	1	6		3	8	8	7	4	

Lanes, Volumes, Timings
101: Tomoka Farms Road & SR 44

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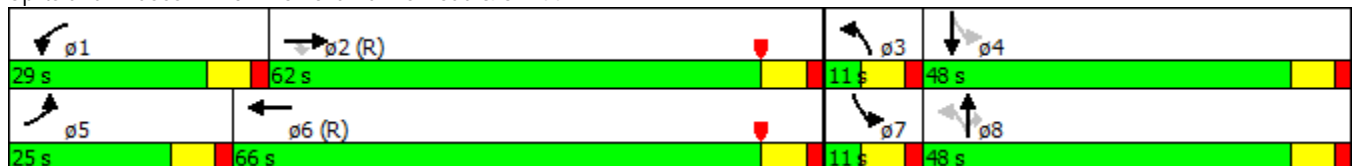


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		4.0	15.0	15.0	4.0	15.0	
Minimum Split (s)	12.0	23.0	23.0	12.0	23.0		11.0	23.0	23.0	11.0	23.0	
Total Split (s)	25.0	62.0	62.0	29.0	66.0		11.0	48.0	48.0	11.0	48.0	
Total Split (%)	16.7%	41.3%	41.3%	19.3%	44.0%		7.3%	32.0%	32.0%	7.3%	32.0%	
Maximum Green (s)	18.0	55.0	55.0	22.0	59.0		4.0	41.0	41.0	4.0	41.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0			5.0	5.0		5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	15.0	55.0	55.0	22.0	62.0		45.0	41.0	41.0	45.0	41.0	
Actuated g/C Ratio	0.10	0.37	0.37	0.15	0.41		0.30	0.27	0.27	0.30	0.27	
v/c Ratio	0.70	1.19	0.24	1.28	0.52		1.43	0.68	1.12	0.44	1.28	
Control Delay	86.0	133.8	8.5	182.0	23.3		274.5	56.6	104.2	44.5	185.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	86.0	133.8	8.5	182.0	23.3		274.5	56.6	104.2	44.5	185.4	
LOS	F	F	A	F	C		F	E	F	D	F	
Approach Delay		119.7			96.7			110.1			168.3	
Approach LOS		F			F			F			F	

Intersection Summary

























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.43
 Intersection Signal Delay: 118.2
 Intersection LOS: F
 Intersection Capacity Utilization 120.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 101: Tomoka Farms Road & SR 44



Lanes, Volumes, Timings
103: Williamson Boulevard & SR 44

2042 B1P
6/19/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	1626	431	477	927	293	236	225	298	594	130	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		250	515		375	250		250	250		180
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	45			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Fl _t Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	3505	1568	3400	3505	1568	3400	1845	1568	3400	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			283			197			142
Link Speed (mph)		65			65			30				35
Link Distance (ft)		8741			1490			520				805
Travel Time (s)		91.7			15.6			11.8				15.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	1712	454	502	976	308	248	237	314	625	137	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	1712	454	502	976	308	248	237	314	625	137	142
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28			28			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4

Lanes, Volumes, Timings
103: Williamson Boulevard & SR 44

2042 B1P
6/19/2015

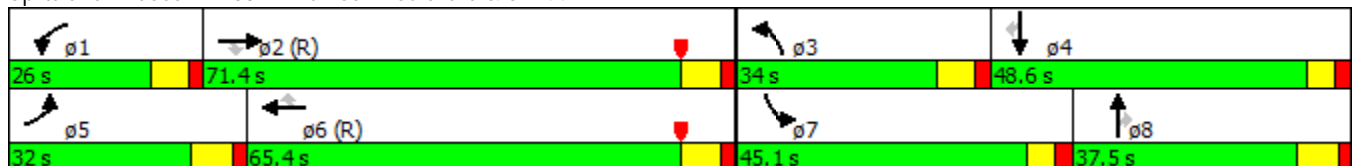


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0	16.0	5.0	16.0	16.0	7.0	7.0	7.0
Minimum Split (s)	12.5	23.5	23.5	12.0	36.5	36.5	12.0	36.5	36.5	44.1	44.1	44.1
Total Split (s)	32.0	71.4	71.4	26.0	65.4	65.4	34.0	37.5	37.5	45.1	48.6	48.6
Total Split (%)	17.8%	39.7%	39.7%	14.4%	36.3%	36.3%	18.9%	20.8%	20.8%	25.1%	27.0%	27.0%
Maximum Green (s)	24.5	63.9	63.9	19.0	57.9	57.9	27.0	30.0	30.0	39.0	42.5	42.5
Yellow Time (s)	5.5	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	3.7	3.7	3.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.0	7.5	7.5	7.0	7.5	7.5	6.1	6.1	6.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)					7.0	7.0		7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)					22.0	22.0		22.0	22.0	31.0	31.0	31.0
Pedestrian Calls (#/hr)					0	0		0	0	0	0	0
Act Effct Green (s)	21.7	63.9	63.9	24.2	65.9	65.9	18.4	27.2	27.2	36.6	45.9	45.9
Actuated g/C Ratio	0.12	0.36	0.36	0.13	0.37	0.37	0.10	0.15	0.15	0.20	0.26	0.26
v/c Ratio	0.83	1.38	0.68	1.10	0.76	0.41	0.71	0.85	0.78	0.90	0.29	0.28
Control Delay	106.6	217.0	35.5	127.1	43.0	11.4	89.7	100.5	40.4	87.1	55.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.6	217.0	35.5	127.1	43.0	11.4	89.7	100.5	40.4	87.1	55.3	8.3
LOS	F	F	D	F	D	B	F	F	D	F	E	A
Approach Delay		173.5			61.2			73.5			69.9	
Approach LOS		F			E			E			E	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 84 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.38
 Intersection Signal Delay: 109.3
 Intersection LOS: F
 Intersection Capacity Utilization 112.3%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 103: Williamson Boulevard & SR 44



Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

2042 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑↑	↑↑							↑
Volume (vph)	0	1960	558	123	1297	0	0	0	0	0	0	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	255		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		1
Taper Length (ft)	0			150			0			0		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.865
Flt Protected				0.950								
Satd. Flow (prot)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Flt Permitted				0.950								
Satd. Flow (perm)	0	3505	1568	3400	3505	0	0	0	0	0	0	1596
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			587									133
Link Speed (mph)		65			65			35			35	
Link Distance (ft)		1490			470			569			611	
Travel Time (s)		15.6			4.9			11.1			11.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2063	587	129	1365	0	0	0	0	0	0	421
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2063	587	129	1365	0	0	0	0	0	0	421
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		38			30			0			0	
Link Offset(ft)		0			0			-60			30	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2							1
Detector Template		Thru	Right	Left	Thru							Right
Leading Detector (ft)		100	20	20	100							20
Trailing Detector (ft)		0	0	0	0							0
Detector 1 Position(ft)		0	0	0	0							0
Detector 1 Size(ft)		6	20	20	6							20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex							Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0							0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0							0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Detector Phase		2	2	1	6							4

Lanes, Volumes, Timings
 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44

2042 B1P
 6/19/2015

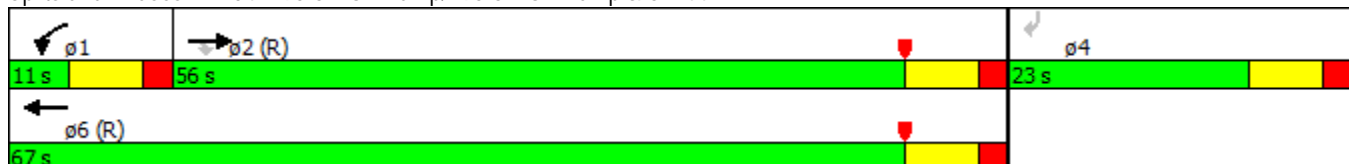


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		4.0	4.0	4.0	4.0							4.0
Minimum Split (s)		23.0	23.0	11.0	23.0							23.0
Total Split (s)		56.0	56.0	11.0	67.0							23.0
Total Split (%)		62.2%	62.2%	12.2%	74.4%							25.6%
Maximum Green (s)		49.0	49.0	4.0	60.0							16.0
Yellow Time (s)		5.0	5.0	5.0	5.0							5.0
All-Red Time (s)		2.0	2.0	2.0	2.0							2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0							7.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Recall Mode		C-Max	C-Max	None	C-Max							None
Walk Time (s)		5.0	5.0		5.0							5.0
Flash Dont Walk (s)		11.0	11.0		11.0							11.0
Pedestrian Calls (#/hr)		0	0		0							0
Act Effect Green (s)		49.0	49.0	4.0	60.0							16.0
Actuated g/C Ratio		0.54	0.54	0.04	0.67							0.18
v/c Ratio		1.08	0.52	0.85	0.58							1.07
Control Delay		62.3	1.9	96.6	7.5							92.2
Queue Delay		0.0	0.0	0.0	0.0							0.0
Total Delay		62.3	1.9	96.6	7.5							92.2
LOS		E	A	F	A							F
Approach Delay		48.9			15.2							
Approach LOS		D			B							

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	130
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.08
Intersection Signal Delay:	41.9
Intersection LOS:	D
Intersection Capacity Utilization:	104.3%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 104: I-95 SB On Ramp/I-95 SB Off Ramp & SR 44



Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗			↖↖	↖	↖↖		↖			
Volume (vph)	445	2217	0	0	1023	496	397	0	173	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	0		300	0		210	0		0
Storage Lanes	2		0	0		1	2		1	0		0
Taper Length (ft)	140			0			0			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr t						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3400	5036	0	0	3505	1568	3400	0	1568	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3400	5036	0	0	3505	1568	3400	0	1568	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						442			70			
Link Speed (mph)		65			55			30				35
Link Distance (ft)		527			914			678				629
Travel Time (s)		5.5			11.3			15.4				12.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	468	2334	0	0	1077	522	418	0	182	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	468	2334	0	0	1077	522	418	0	182	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		25			40			24				24
Link Offset(ft)		0			0			-30				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	0	1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100	0	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	0	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	1	6			2							
Permitted Phases						2	4		4			
Detector Phase	1	6			2	2	4		4			

Lanes, Volumes, Timings
 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44

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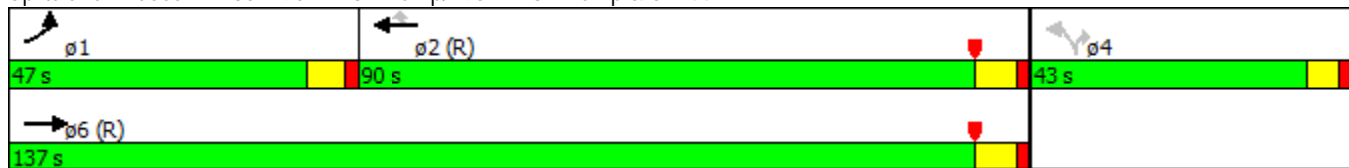


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	16.0			16.0	16.0	6.0		6.0			
Minimum Split (s)	13.0	23.5			23.5	23.5	22.1		22.1			
Total Split (s)	47.0	137.0			90.0	90.0	43.0		43.0			
Total Split (%)	26.1%	76.1%			50.0%	50.0%	23.9%		23.9%			
Maximum Green (s)	40.0	129.5			82.5	82.5	36.9		36.9			
Yellow Time (s)	5.0	5.5			5.5	5.5	4.1		4.1			
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.0	7.5			7.5	7.5	6.1		6.1			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	4.0			4.0	4.0	4.0		4.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Act Effct Green (s)	30.0	137.5			100.4	100.4	28.9		28.9			
Actuated g/C Ratio	0.17	0.76			0.56	0.56	0.16		0.16			
v/c Ratio	0.83	0.61			0.55	0.49	0.77		0.59			
Control Delay	70.8	6.2			11.5	1.9	81.6		49.6			
Queue Delay	0.0	0.2			0.0	0.0	0.0		0.0			
Total Delay	70.8	6.4			11.5	1.9	81.6		49.6			
LOS	E	A			B	A	F		D			
Approach Delay		17.2			8.4							
Approach LOS		B			A							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 20 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 20.9
 Intersection LOS: C
 Intersection Capacity Utilization 67.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 106: I-95 NB Off Ramp/I-95 NB On Ramp & SR 44



Lanes, Volumes, Timings
107: SR 44 & Sugar Mill Road

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↗↗	↗	↘	↘
Volume (vph)	288	2102	1322	95	94	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	675			200	0	155
Storage Lanes	1			1	1	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1752	3505	3505	1568	1752	1568
Fl _t Permitted	0.128				0.950	
Satd. Flow (perm)	236	3505	3505	1568	1752	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				54		207
Link Speed (mph)		55	55		45	
Link Distance (ft)		1423	522		572	
Travel Time (s)		17.6	6.5		8.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	303	2213	1392	100	99	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	303	2213	1392	100	99	207
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		28	36		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Detector Phase	1	6	2	2	8	8



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	6.0	16.0	16.0	16.0	6.0	6.0
Minimum Split (s)	13.5	23.5	23.5	23.5	22.7	22.7
Total Split (s)	45.0	151.0	106.0	106.0	29.0	29.0
Total Split (%)	25.0%	83.9%	58.9%	58.9%	16.1%	16.1%
Maximum Green (s)	37.5	143.5	98.5	98.5	22.3	22.3
Yellow Time (s)	5.5	5.5	5.5	5.5	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	6.7	6.7
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effect Green (s)	149.4	149.4	118.0	118.0	16.4	16.4
Actuated g/C Ratio	0.83	0.83	0.66	0.66	0.09	0.09
v/c Ratio	0.76	0.76	0.61	0.10	0.62	0.63
Control Delay	44.7	14.9	21.0	7.4	94.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	14.9	21.0	7.4	94.9	16.9
LOS	D	B	C	A	F	B
Approach Delay	18.5		20.1		42.2	
Approach LOS	B		C		D	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 2 (1%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 20.7
 Intersection LOS: C
 Intersection Capacity Utilization 75.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 107: SR 44 & Sugar Mill Road



Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	345	48	30	409	296	31	167	40	329	188	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	260		0	0		200	140		140
Storage Lanes	2		0	1		0	1		1	2		1
Taper Length (ft)	40			50			0			50		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00
Frt		0.982			0.937				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1829	0	1770	1745	0	1770	1863	1583	3433	3539	1583
Flt Permitted	0.950			0.409			0.320			0.950		
Satd. Flow (perm)	3433	1829	0	762	1745	0	596	1863	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			35				195			373
Link Speed (mph)		45			45			45				45
Link Distance (ft)		578			395			553				467
Travel Time (s)		8.8			6.0			8.4				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	368	363	51	32	431	312	33	176	42	346	198	373
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	414	0	32	743	0	33	176	42	346	198	373
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			16				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		pm+pt	NA		pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases				6			8		8			4

Lanes, Volumes, Timings
201: Airport Road & Pioneer Trail

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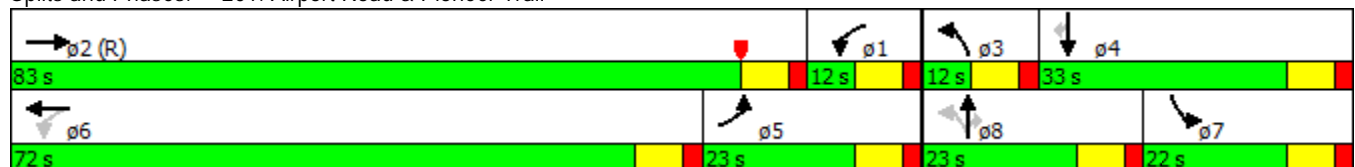


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	23.0		12.0	23.0		12.0	23.0	23.0	12.0	23.0	23.0
Total Split (s)	23.0	83.0		12.0	72.0		12.0	23.0	23.0	22.0	33.0	33.0
Total Split (%)	16.4%	59.3%		8.6%	51.4%		8.6%	16.4%	16.4%	15.7%	23.6%	23.6%
Maximum Green (s)	16.0	76.0		5.0	65.0		5.0	16.0	16.0	15.0	26.0	26.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None		None	None	None	None	None	None
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effect Green (s)	17.8	81.0		68.4	63.4		15.5	15.5	15.5	15.3	30.6	30.6
Actuated g/C Ratio	0.13	0.58		0.49	0.45		0.11	0.11	0.11	0.11	0.22	0.22
v/c Ratio	0.84	0.39		0.08	0.92		0.31	0.86	0.12	0.92	0.26	0.59
Control Delay	77.7	18.0		4.9	30.4		63.6	95.7	0.7	91.9	47.7	8.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.7	18.0		4.9	30.4		63.6	95.7	0.7	91.9	47.7	8.7
LOS	E	B		A	C		E	F	A	F	D	A
Approach Delay		46.1			29.3			75.6			48.5	
Approach LOS		D			C			E			D	

Intersection Summary

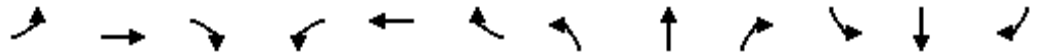
Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 79 (56%), Referenced to phase 2:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 44.9
 Intersection LOS: D
 Intersection Capacity Utilization 91.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 201: Airport Road & Pioneer Trail





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	461	126	280	490	407	75	174	196	449	400	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	250		250	250		250
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.968				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3426	0	1770	1863	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.272			0.236			0.487			0.950		
Satd. Flow (perm)	507	3426	0	440	1863	1583	907	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24				373			249			195
Link Speed (mph)		45			45			30				35
Link Distance (ft)		609			1444			511				1084
Travel Time (s)		9.2			21.9			11.6				21.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	134	485	133	295	516	428	79	183	206	473	421	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	618	0	295	516	428	79	183	206	473	421	179
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8			4

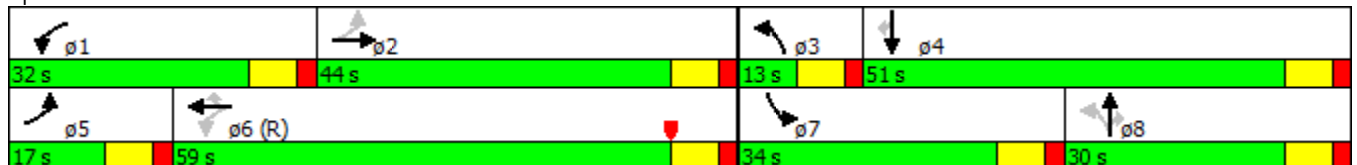


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	5.0	5.0	5.0
Minimum Split (s)	11.0	23.0		11.0	23.0	23.0	11.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	17.0	44.0		32.0	59.0	59.0	13.0	30.0	30.0	34.0	51.0	51.0
Total Split (%)	12.1%	31.4%		22.9%	42.1%	42.1%	9.3%	21.4%	21.4%	24.3%	36.4%	36.4%
Maximum Green (s)	10.0	37.0		25.0	52.0	52.0	6.0	23.0	23.0	27.0	44.0	44.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	C-Max	C-Max	None	None	None	Max	Max	Max
Walk Time (s)		5.0			5.0	5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0	0	0	0
Act Effct Green (s)	52.0	42.4		68.7	52.5	52.5	29.0	23.0	23.0	27.0	44.0	44.0
Actuated g/C Ratio	0.37	0.30		0.49	0.38	0.38	0.21	0.16	0.16	0.19	0.31	0.31
v/c Ratio	0.49	0.59		0.74	0.74	0.52	0.35	0.60	0.44	0.71	0.72	0.28
Control Delay	26.1	28.3		25.9	28.5	6.9	34.5	63.3	5.5	59.8	50.7	4.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	28.3		25.9	28.5	6.9	34.5	63.3	5.5	59.8	50.7	4.6
LOS	C	C		C	C	A	C	E	A	E	D	A
Approach Delay		27.9			20.4			33.0			47.0	
Approach LOS		C			C			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 50 (36%), Referenced to phase 6:WBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 31.7
 Intersection LOS: C
 Intersection Capacity Utilization 81.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 202: Williamson Blvd/Williamson Boulevard & Pioneer Trail



Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2042 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↑↑		↑
Volume (vph)	0	768	338	232	941	0	0	0	0	556	0	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	0		0	0		250
Storage Lanes	0		0	1		0	0		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Flt		0.954										0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	3376	0	1770	3539	0	0	0	0	3433	0	1583
Flt Permitted				0.123						0.950		
Satd. Flow (perm)	0	3376	0	229	3539	0	0	0	0	3433	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55										94
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1444			1065			541				728
Travel Time (s)		21.9			16.1			12.3				16.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	808	356	244	991	0	0	0	0	585	0	248
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1164	0	244	991	0	0	0	0	585	0	248
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		pm+pt	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases				6						4		4

Lanes, Volumes, Timings
 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail

2042 B1P
 6/19/2015

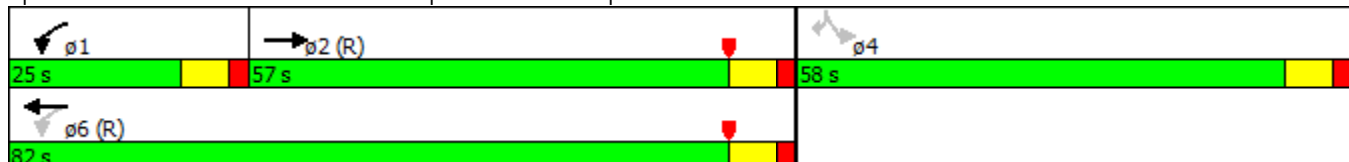


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2		1	6					4		4
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					5.0		5.0
Minimum Split (s)		23.0		12.0	23.0					23.0		23.0
Total Split (s)		57.0		25.0	82.0					58.0		58.0
Total Split (%)		40.7%		17.9%	58.6%					41.4%		41.4%
Maximum Green (s)		50.0		18.0	75.0					51.0		51.0
Yellow Time (s)		5.0		5.0	5.0					5.0		5.0
All-Red Time (s)		2.0		2.0	2.0					2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.0		7.0	7.0					7.0		7.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)		5.0			5.0					5.0		5.0
Flash Dont Walk (s)		11.0			11.0					11.0		11.0
Pedestrian Calls (#/hr)		0			0					0		0
Act Effect Green (s)		68.1		95.5	95.5					30.5		30.5
Actuated g/C Ratio		0.49		0.68	0.68					0.22		0.22
v/c Ratio		0.70		0.64	0.41					0.78		0.59
Control Delay		34.6		23.4	9.0					59.2		35.3
Queue Delay		0.0		0.0	0.0					0.0		0.0
Total Delay		34.6		23.4	9.0					59.2		35.3
LOS		C		C	A					E		D
Approach Delay		34.6			11.9							
Approach LOS		C			B							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 52 (37%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 30.4
 Intersection LOS: C
 Intersection Capacity Utilization 78.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 203: I-95 SB On Ramp/I-95 SB Off Ramp & Pioneer Trail



Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2042 B1P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘		↘			
Volume (vph)	289	1035	0	0	777	362	396	0	113	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.952				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3369	0	3433	0	1583	0	0	0
Fl _t Permitted	0.141						0.950					
Satd. Flow (perm)	263	3539	0	0	3369	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					72				119			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1065			327			535			742	
Travel Time (s)		16.1			5.0			12.2			16.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	304	1089	0	0	818	381	417	0	119	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1089	0	0	1199	0	417	0	119	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			

Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

2042 B1P
6/19/2015



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	28	329	810	30	308	840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1853	0	1770	1863
Flt Permitted	0.950				0.159	
Satd. Flow (perm)	1770	1583	1853	0	296	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		346	2			
Link Speed (mph)	45		35			45
Link Distance (ft)	1187		457			524
Travel Time (s)	18.0		8.9			7.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	29	346	853	32	324	884
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	346	885	0	324	884
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	

Lanes, Volumes, Timings
205: Pioneer Trail & Turnbull Bay

2042 B1P
6/19/2015

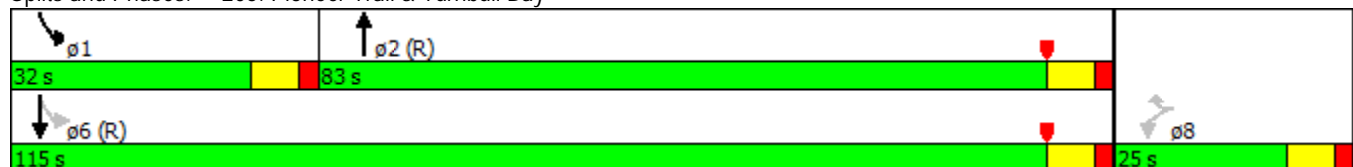


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	23.0	23.0	23.0		11.0	23.0
Total Split (s)	25.0	25.0	83.0		32.0	115.0
Total Split (%)	17.9%	17.9%	59.3%		22.9%	82.1%
Maximum Green (s)	18.0	18.0	76.0		25.0	108.0
Yellow Time (s)	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0		7.0	7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Walk Time (s)	5.0	5.0	5.0			5.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effect Green (s)	9.8	9.8	88.2		116.2	116.2
Actuated g/C Ratio	0.07	0.07	0.63		0.83	0.83
v/c Ratio	0.24	0.80	0.76		0.70	0.57
Control Delay	63.8	20.3	25.8		23.6	3.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	63.8	20.3	25.8		23.6	3.7
LOS	E	C	C		C	A
Approach Delay	23.7		25.8			9.0
Approach LOS	C		C			A

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 2 (1%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 17.3
 Intersection LOS: B
 Intersection Capacity Utilization 82.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 205: Pioneer Trail & Turnbull Bay



Lanes, Volumes, Timings
206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

2042 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	143	611	114	74	686	38	60	89	68	30	102	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.994			0.958			0.944	
Flt Protected		0.992			0.995			0.986			0.993	
Satd. Flow (prot)	0	1815	0	0	1842	0	0	1760	0	0	1746	0
Flt Permitted		0.720			0.841			0.665			0.881	
Satd. Flow (perm)	0	1317	0	0	1557	0	0	1187	0	0	1549	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			4			16			25	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		4288			1652			797			509	
Travel Time (s)		65.0			32.2			12.1			7.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	151	643	120	78	722	40	63	94	72	32	107	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	914	0	0	840	0	0	229	0	0	238	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	

Lanes, Volumes, Timings
 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	97.0	97.0		97.0	97.0		33.0	33.0		33.0	33.0	
Total Split (%)	74.6%	74.6%		74.6%	74.6%		25.4%	25.4%		25.4%	25.4%	
Maximum Green (s)	90.0	90.0		90.0	90.0		26.0	26.0		26.0	26.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		90.0			90.0			26.0			26.0	
Actuated g/C Ratio		0.69			0.69			0.20			0.20	
v/c Ratio		1.00			0.78			0.92			0.72	
Control Delay		49.7			19.7			86.5			57.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		49.7			19.7			86.5			57.1	
LOS		D			B			F			E	
Approach Delay		49.7			19.7			86.5			57.1	
Approach LOS		D			B			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 97 (75%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 43.0
 Intersection LOS: D
 Intersection Capacity Utilization 109.8%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 206: Sugar Mill Drive/Sugar Mill Dr & Pioneer Trail



Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	328	10	4	351	6	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	80	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	345	11	4	369	6	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	345
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1214
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1214
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	458	-	-	1214	-
HCM Lane V/C Ratio	0.021	-	-	0.003	-
HCM Control Delay (s)	13	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 8.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	149	66	220	154	70	224
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	69	232	162	74	236

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	226
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1342
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1342
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	573	-	-	1342	-
HCM Lane V/C Ratio	0.54	-	-	0.173	-
HCM Control Delay (s)	18.4	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.2	-	-	0.6	-

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	952	32	64	1044	72	22	20	31	84	48	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		85	210		0	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	0			55			70			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.874
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1628	0
Flt Permitted	0.950			0.950			0.206			0.638		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	384	1863	1583	1188	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			120			167			162
Link Speed (mph)		30			45			25			25	
Link Distance (ft)		248			1468			287			321	
Travel Time (s)		5.6			22.2			7.8			8.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	126	1002	34	67	1099	76	23	21	33	88	51	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	1002	34	67	1099	76	23	21	33	88	320	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		

Lanes, Volumes, Timings
301: Summertrees Road & SR 421

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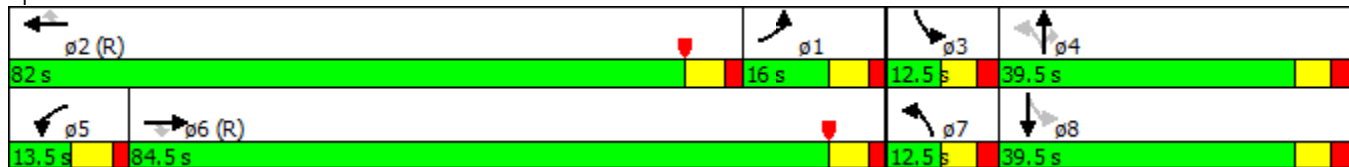


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	6.0	10.0	10.0	6.0	10.0	
Minimum Split (s)	13.5	39.5	39.5	13.5	39.5	39.5	12.5	39.5	39.5	12.5	39.5	
Total Split (s)	16.0	84.5	84.5	13.5	82.0	82.0	12.5	39.5	39.5	12.5	39.5	
Total Split (%)	10.7%	56.3%	56.3%	9.0%	54.7%	54.7%	8.3%	26.3%	26.3%	8.3%	26.3%	
Maximum Green (s)	9.5	78.0	78.0	7.0	75.5	75.5	6.0	33.0	33.0	6.0	33.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effect Green (s)	9.5	90.1	90.1	10.3	90.9	90.9	24.0	20.0	20.0	26.2	22.6	
Actuated g/C Ratio	0.06	0.60	0.60	0.07	0.61	0.61	0.16	0.13	0.13	0.17	0.15	
v/c Ratio	1.12	0.90	0.03	0.55	0.97	0.08	0.20	0.08	0.09	0.38	0.84	
Control Delay	182.7	40.0	0.1	83.7	51.0	0.7	45.9	52.4	0.5	52.3	48.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	182.7	40.0	0.1	83.7	51.0	0.7	45.9	52.4	0.5	52.3	48.5	
LOS	F	D	A	F	D	A	D	D	A	D	D	
Approach Delay		54.3			49.7			28.2			49.3	
Approach LOS		D			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 50.9
 Intersection LOS: D
 Intersection Capacity Utilization 96.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 301: Summertrees Road & SR 421



Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	793	146	905	1002	1059	129	657	554	1211	1474	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		230	460		0	205		590	690		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	100			100			110			100		
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.95	0.88	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3465	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4968	0	3433	3539	1583	3433	3539	2787	3433	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20				76			124			11
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1468			652			802				861
Travel Time (s)		22.2			9.9			12.2				13.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	135	835	154	953	1055	1115	136	692	583	1275	1552	246
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	989	0	953	1055	1115	136	692	583	1275	1798	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	1	6		5	2	3	7	4	5	3	8	
Permitted Phases						2			4			

Lanes, Volumes, Timings
302: Williamson Boulevard & SR 421

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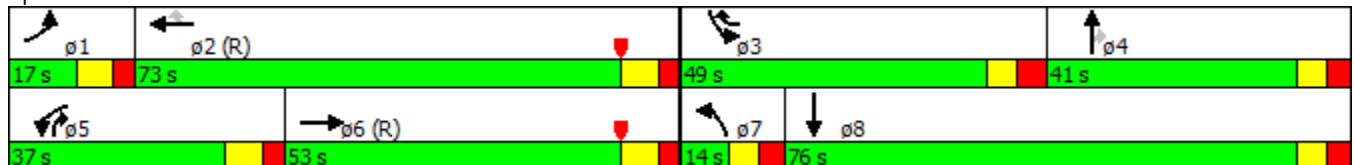


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	3	7	4	5	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	5.0	5.0	10.0	5.0	5.0		10.0
Minimum Split (s)	13.0	51.0		13.0	40.0	13.0	12.5	23.5	13.0	13.0		47.5
Total Split (s)	17.0	53.0		37.0	73.0	49.0	14.0	41.0	37.0	49.0		76.0
Total Split (%)	9.4%	29.4%		20.6%	40.6%	27.2%	7.8%	22.8%	20.6%	27.2%		42.2%
Maximum Green (s)	9.0	45.0		29.0	65.0	41.0	6.5	33.5	29.0	41.0		68.5
Yellow Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	4.0	5.0	4.0		4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	4.0	3.5	3.5	3.0	4.0		3.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.5	7.5	8.0	8.0		7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead		Lag
Lead-Lag Optimize?		Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None		None
Walk Time (s)		7.0			7.0							7.0
Flash Dont Walk (s)		36.0			25.0							33.0
Pedestrian Calls (#/hr)		0			0							0
Act Effect Green (s)	9.0	45.0		29.0	65.0	114.0	6.5	33.5	70.0	41.0		68.5
Actuated g/C Ratio	0.05	0.25		0.16	0.36	0.63	0.04	0.19	0.39	0.23		0.38
v/c Ratio	0.79	0.79		1.72	0.83	1.08	1.11	1.05	0.50	1.63		1.36
Control Delay	113.5	67.0		368.9	59.2	67.2	185.9	117.4	33.9	330.8		207.3
Queue Delay	0.0	0.8		0.0	23.6	7.6	0.0	0.0	0.0	0.5		0.0
Total Delay	113.5	67.8		368.9	82.8	74.8	185.9	117.4	33.9	331.3		207.3
LOS	F	E		F	F	E	F	F	C	F		F
Approach Delay		73.2			167.2			89.5				258.7
Approach LOS		E			F			F				F

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 138 (77%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.72
 Intersection Signal Delay: 174.8
 Intersection LOS: F
 Intersection Capacity Utilization 123.4%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 302: Williamson Boulevard & SR 421



Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑↑	↑↑					↑↑		↑↑
Volume (vph)	0	2335	223	386	2451	0	0	0	0	681	0	515
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		310
Storage Lanes	0		0	2		0	0		0	2		1
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95	1.00	1.00	1.00	1.00	0.97	1.00	0.88
Fr _t		0.987										0.850
Fl _t Protected				0.950						0.950		
Satd. Flow (prot)	0	5019	0	3433	3539	0	0	0	0	3433	0	2787
Fl _t Permitted				0.950						0.950		
Satd. Flow (perm)	0	5019	0	3433	3539	0	0	0	0	3433	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14										73
Link Speed (mph)		45			50			30				30
Link Distance (ft)		652			552			354				749
Travel Time (s)		9.9			7.5			8.0				17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	2458	235	406	2580	0	0	0	0	717	0	542
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2693	0	406	2580	0	0	0	0	717	0	542
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2					1		1
Detector Template		Thru		Left	Thru					Left		Right
Leading Detector (ft)		100		20	100					20		20
Trailing Detector (ft)		0		0	0					0		0
Detector 1 Position(ft)		0		0	0					0		0
Detector 1 Size(ft)		6		20	6					20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Prot	NA					Prot		Perm
Protected Phases		6		5	2					8		
Permitted Phases												8

Lanes, Volumes, Timings
 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

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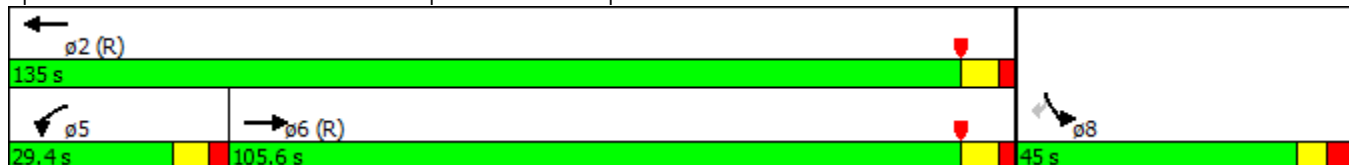


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		5	2					8		8
Switch Phase												
Minimum Initial (s)		15.0		5.0	15.0					10.0		10.0
Minimum Split (s)		23.5		12.5	27.5					17.5		17.5
Total Split (s)		105.6		29.4	135.0					45.0		45.0
Total Split (%)		58.7%		16.3%	75.0%					25.0%		25.0%
Maximum Green (s)		98.1		21.9	127.5					37.5		37.5
Yellow Time (s)		5.0		5.0	5.0					4.0		4.0
All-Red Time (s)		2.5		2.5	2.5					3.5		3.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		0.0
Total Lost Time (s)		7.5		7.5	7.5					7.5		7.5
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		4.0		3.0	4.0					3.0		3.0
Recall Mode		C-Max		None	C-Max					None		None
Walk Time (s)					7.0							
Flash Dont Walk (s)					13.0							
Pedestrian Calls (#/hr)					0							
Act Effect Green (s)		98.1		21.9	127.5					37.5		37.5
Actuated g/C Ratio		0.54		0.12	0.71					0.21		0.21
v/c Ratio		0.98		0.97	1.03					1.00		0.85
Control Delay		23.2		123.4	38.7					103.8		72.4
Queue Delay		41.4		0.0	26.0					0.0		0.8
Total Delay		64.6		123.4	64.7					103.8		73.2
LOS		E		F	E					F		E
Approach Delay		64.6			72.7							
Approach LOS		E			E							

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Offset:	31 (17%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	140
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.03
Intersection Signal Delay:	72.8
Intersection LOS:	E
Intersection Capacity Utilization:	99.7%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421



Lanes, Volumes, Timings
304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

2042 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗			↖↖↖	↖	↖		↖↖			
Volume (vph)	392	2624	0	0	2615	594	222	0	282	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		0	315		315	0		0
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	0			25			110			0		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	0.88	1.00	1.00	1.00
Fr _t						0.850			0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Fl _t Permitted	0.950						0.950					
Satd. Flow (perm)	3433	5085	0	0	5085	1583	1770	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						313			73			
Link Speed (mph)		50			50			30				30
Link Distance (ft)		552			713			654				558
Travel Time (s)		7.5			9.7			14.9				12.7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	413	2762	0	0	2753	625	234	0	297	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	413	2762	0	0	2753	625	234	0	297	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			20			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	1	6			2		4					
Permitted Phases						2			4			

Lanes, Volumes, Timings
 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

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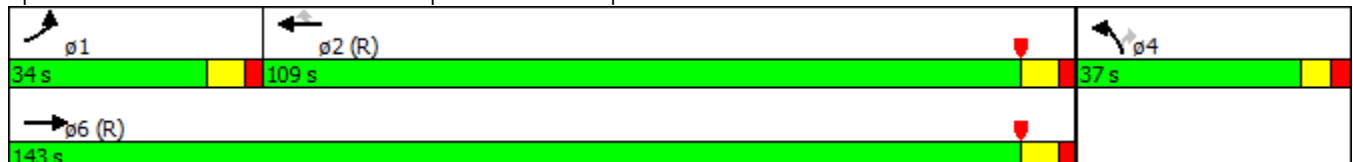


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2	2	4		4			
Switch Phase												
Minimum Initial (s)	7.0	15.0			15.0	15.0	10.0		10.0			
Minimum Split (s)	14.5	22.5			27.5	27.5	17.0		17.0			
Total Split (s)	34.0	143.0			109.0	109.0	37.0		37.0			
Total Split (%)	18.9%	79.4%			60.6%	60.6%	20.6%		20.6%			
Maximum Green (s)	26.5	135.5			101.5	101.5	30.0		30.0			
Yellow Time (s)	5.0	5.0			5.0	5.0	4.0		4.0			
All-Red Time (s)	2.5	2.5			2.5	2.5	3.0		3.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	7.5	7.5			7.5	7.5	7.0		7.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					13.0	13.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	25.1	138.2			105.6	105.6	27.3		27.3			
Actuated g/C Ratio	0.14	0.77			0.59	0.59	0.15		0.15			
v/c Ratio	0.86	0.71			0.92	0.59	0.87		0.61			
Control Delay	82.3	8.1			13.0	2.4	104.3		58.8			
Queue Delay	0.0	1.0			9.1	1.4	46.6		0.0			
Total Delay	82.3	9.1			22.1	3.8	150.8		58.8			
LOS	F	A			C	A	F		E			
Approach Delay		18.6			18.8							
Approach LOS		B			B							

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 29 (16%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 24.7
 Intersection LOS: C
 Intersection Capacity Utilization 99.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421



Lanes, Volumes, Timings
305: Taylor Road & SR 421

2042 B1P
6/19/2015



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↗
Volume (vph)	2101	805	71	3209	0	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		150	300		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			50		0	
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Flt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	5085	1583	1770	5085	0	1611
Flt Permitted			0.950			
Satd. Flow (perm)	5085	1583	1770	5085	0	1611
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		355				109
Link Speed (mph)	50			50	35	
Link Distance (ft)	713			1605	403	
Travel Time (s)	9.7			21.9	7.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	2212	847	75	3378	0	400
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2212	847	75	3378	0	400
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	32			12	12	
Link Offset(ft)	20			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	1	1	2		1
Detector Template	Thru	Right	Left	Thru		Right
Leading Detector (ft)	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0		0
Detector 1 Size(ft)	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Prot	NA		Prot
Protected Phases	6		5	2		4
Permitted Phases		6				



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	6	6	5	2		4
Switch Phase						
Minimum Initial (s)	17.0	17.0	5.0	17.0		5.0
Minimum Split (s)	32.0	32.0	12.0	24.5		45.5
Total Split (s)	112.8	112.8	18.0	130.8		49.2
Total Split (%)	62.7%	62.7%	10.0%	72.7%		27.3%
Maximum Green (s)	105.8	105.8	11.0	123.3		42.7
Yellow Time (s)	5.0	5.0	5.0	5.0		4.0
All-Red Time (s)	2.0	2.0	2.0	2.5		2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.5		6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	3.0	4.0		3.0
Recall Mode	C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0				7.0
Flash Dont Walk (s)	18.0	18.0				32.0
Pedestrian Calls (#/hr)	0	0				0
Act Effect Green (s)	110.5	110.5	10.8	127.9		38.1
Actuated g/C Ratio	0.61	0.61	0.06	0.71		0.21
v/c Ratio	0.71	0.76	0.71	0.94		0.94
Control Delay	17.6	10.8	108.3	11.1		79.9
Queue Delay	0.4	0.5	0.0	7.8		0.0
Total Delay	18.0	11.4	108.3	18.9		79.9
LOS	B	B	F	B		E
Approach Delay	16.2			20.8		
Approach LOS	B			C		

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 27 (15%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 22.2
 Intersection LOS: C
 Intersection Capacity Utilization 75.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 305: Taylor Road & SR 421



Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2042 B1P
6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	216	1701	88	257	2097	270	462	63	96	320	143	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	235		0	260		0	150		300	0		265
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	45			50			55			0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.993			0.983				0.850		0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5050	0	1770	4999	0	3433	1863	1583	1770	3337	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5050	0	1770	4999	0	3433	1863	1583	1770	3337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			16				167		65	
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1605			1766			596			539	
Travel Time (s)		21.9			24.1			10.2			9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	227	1791	93	271	2207	284	486	66	101	337	151	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	1884	0	271	2491	0	486	66	101	337	243	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		20			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20		100
Trailing Detector (ft)	0	0		0	0		0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot		NA
Protected Phases	1	6		5	2		3	8		7		4
Permitted Phases									8			

Lanes, Volumes, Timings
306: Yorktowne Boulevard & SR 421

2042 B1P
6/19/2015

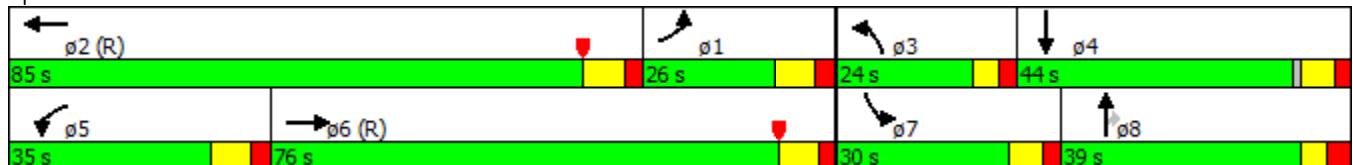


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	13.5	50.0		13.0	51.0		12.0	36.0	36.0	12.0	44.0	
Total Split (s)	26.0	76.0		35.0	85.0		24.0	39.0	39.0	30.0	44.0	
Total Split (%)	14.4%	42.2%		19.4%	47.2%		13.3%	21.7%	21.7%	16.7%	24.4%	
Maximum Green (s)	17.5	68.0		27.0	77.0		18.0	32.0	32.0	23.0	37.0	
Yellow Time (s)	5.5	5.5		5.5	5.5		3.5	3.5	3.5	4.5	4.5	
All-Red Time (s)	3.0	2.5		2.5	2.5		2.5	3.5	3.5	2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.5	8.0		8.0	8.0		6.0	7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)		8.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		34.0			36.0			22.0	22.0		30.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	17.5	77.0		37.7	96.7		18.0	12.3	12.3	23.0	18.3	
Actuated g/C Ratio	0.10	0.43		0.21	0.54		0.10	0.07	0.07	0.13	0.10	
v/c Ratio	1.32	0.87		0.73	0.93		1.42	0.52	0.38	1.49	0.61	
Control Delay	217.8	37.0		49.1	24.7		256.8	95.0	4.2	291.5	62.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	217.8	37.0		49.1	24.7		256.8	95.0	4.2	291.5	62.9	
LOS	F	D		D	C		F	F	A	F	E	
Approach Delay		56.5			27.1			201.4			195.8	
Approach LOS		E			C			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 8 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.49
 Intersection Signal Delay: 71.9
 Intersection LOS: E
 Intersection Capacity Utilization 110.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 306: Yorktowne Boulevard & SR 421



Lanes, Volumes, Timings
307: Clyde Morris Boulevard & SR 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗↗		↖	↗↗↗	↖	↖↖	↗↗		↖↖	↗	↖
Volume (vph)	521	1368	228	70	1849	299	406	409	81	300	446	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	635		0	235		335	250		0	300		0
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	95			50			55			95		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.97	0.95	0.95	0.97	1.00	1.00
Frt		0.979				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4979	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	4979	0	1770	5085	1583	3433	3451	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				197		12				286
Link Speed (mph)		50			50			40				45
Link Distance (ft)		1766			928			543				546
Travel Time (s)		24.1			12.7			9.3				8.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	548	1440	240	74	1946	315	427	431	85	316	469	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	548	1680	0	74	1946	315	427	516	0	316	469	473
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8

Lanes, Volumes, Timings
 307: Clyde Morris Boulevard & SR 421

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 6/19/2015

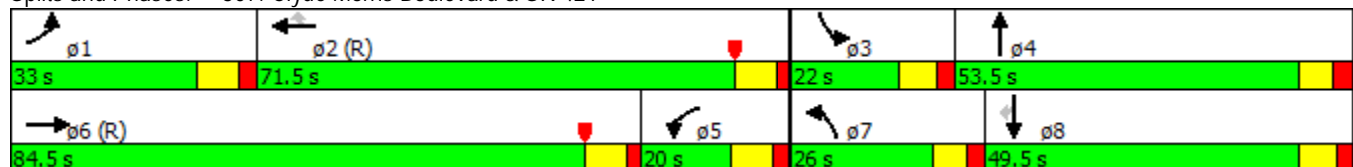


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.0	42.5		13.0	40.5	40.5	23.0	52.5		12.5	49.5	49.5
Total Split (s)	33.0	84.5		20.0	71.5	71.5	26.0	53.5		22.0	49.5	49.5
Total Split (%)	18.3%	46.9%		11.1%	39.7%	39.7%	14.4%	29.7%		12.2%	27.5%	27.5%
Maximum Green (s)	25.0	77.0		12.0	64.0	64.0	19.0	46.0		14.5	42.0	42.0
Yellow Time (s)	5.5	5.5		5.5	5.5	5.5	4.5	4.5		5.0	5.0	5.0
All-Red Time (s)	2.5	2.0		2.5	2.0	2.0	2.5	3.0		2.5	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	7.5		8.0	7.5	7.5	7.0	7.5		7.5	7.5	7.5
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		8.0			8.0	8.0
Flash Dont Walk (s)		28.0			26.0	26.0		37.0			34.0	34.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	25.0	77.0		12.0	64.0	64.0	19.0	46.0		14.5	42.0	42.0
Actuated g/C Ratio	0.14	0.43		0.07	0.36	0.36	0.11	0.26		0.08	0.23	0.23
v/c Ratio	1.15	0.78		0.63	1.08	0.46	1.18	0.58		1.14	1.08	0.80
Control Delay	126.5	23.4		104.8	98.8	18.0	170.7	60.2		167.8	128.7	36.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	126.5	23.4		104.8	98.8	18.0	170.7	60.2		167.8	128.7	36.5
LOS	F	C		F	F	B	F	E		F	F	D
Approach Delay		48.8			88.1			110.2			103.9	
Approach LOS		D			F			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 93 (52%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 81.2
 Intersection LOS: F
 Intersection Capacity Utilization 110.6%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 307: Clyde Morris Boulevard & SR 421



Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	768	338	232	941	0	0	0	0	0	0	236
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	808	356	244	991	0	0	0	0	0	0	248

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	991	0	0	1164	0	0	1883	2643	495
Stage 1	-	-	-	-	-	-	1479	1479	-
Stage 2	-	-	-	-	-	-	404	1164	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	693	-	-	596	-	-	63	23	520
Stage 1	-	-	-	-	-	-	176	188	-
Stage 2	-	-	-	-	-	-	643	267	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	693	-	-	596	-	-	37	0	520
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	0	-
Stage 1	-	-	-	-	-	-	104	0	-
Stage 2	-	-	-	-	-	-	643	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	3	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	693	-	-	596	-	-	520
HCM Lane V/C Ratio	-	-	-	0.41	-	-	0.478
HCM Control Delay (s)	0	-	-	15.2	-	-	18.1
HCM Lane LOS	A	-	-	C	-	-	C
HCM 95th %tile Q(veh)	0	-	-	2	-	-	2.6

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2042 B2P
 6/19/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	1035	0	0	777	362	396	0	113	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		250	0		0
Storage Lanes	1		0	0		0	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Fr _t					0.952				0.850			
Fl _t Protected	0.950						0.950					
Satd. Flow (prot)	1770	3539	0	0	3369	0	3433	0	1583	0	0	0
Fl _t Permitted	0.141						0.950					
Satd. Flow (perm)	263	3539	0	0	3369	0	3433	0	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					72				119			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		748			327			535				742
Travel Time (s)		11.3			5.0			12.2				16.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	304	1089	0	0	818	381	417	0	119	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	304	1089	0	0	1199	0	417	0	119	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1		1			
Detector Template	Left	Thru			Thru		Left		Right			
Leading Detector (ft)	20	100			100		20		20			
Trailing Detector (ft)	0	0			0		0		0			
Detector 1 Position(ft)	0	0			0		0		0			
Detector 1 Size(ft)	20	6			6		20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0		0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0		0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	pm+pt	NA			NA		Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases	2						8		8			
Detector Phase	5	2			6		8		8			

Lanes, Volumes, Timings
 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail

2042 B2P
 6/19/2015

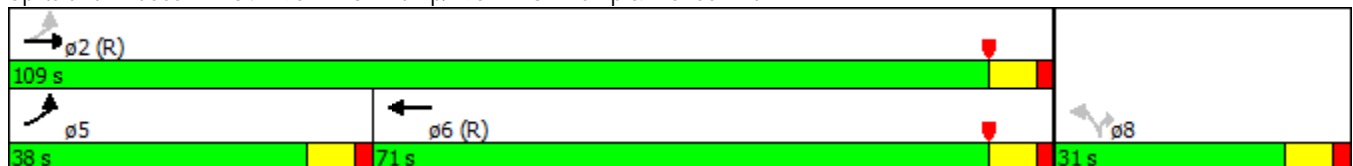


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	15.0			15.0		5.0		5.0			
Minimum Split (s)	12.0	23.0			23.0		23.0		23.0			
Total Split (s)	38.0	109.0			71.0		31.0		31.0			
Total Split (%)	27.1%	77.9%			50.7%		22.1%		22.1%			
Maximum Green (s)	31.0	102.0			64.0		24.0		24.0			
Yellow Time (s)	5.0	5.0			5.0		5.0		5.0			
All-Red Time (s)	2.0	2.0			2.0		2.0		2.0			
Lost Time Adjust (s)	0.0	0.0			0.0		0.0		0.0			
Total Lost Time (s)	7.0	7.0			7.0		7.0		7.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0		3.0			
Recall Mode	None	C-Max			C-Max		None		None			
Walk Time (s)		5.0			5.0		5.0		5.0			
Flash Dont Walk (s)		11.0			11.0		11.0		11.0			
Pedestrian Calls (#/hr)		0			0		0		0			
Act Effct Green (s)	104.6	104.6			77.7		21.4		21.4			
Actuated g/C Ratio	0.75	0.75			0.56		0.15		0.15			
v/c Ratio	0.74	0.41			0.63		0.80		0.35			
Control Delay	39.1	3.5			16.7		68.9		11.2			
Queue Delay	0.0	0.0			0.0		0.0		0.0			
Total Delay	39.1	3.5			16.7		68.9		11.2			
LOS	D	A			B		E		B			
Approach Delay		11.3			16.7							
Approach LOS		B			B							

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 123 (88%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 21.1
 Intersection LOS: C
 Intersection Capacity Utilization 75.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 204: I-95 NB Off Ramp/I-95 NB On Ramp & Pioneer Trail















2042 AM No-Build Queue Reports

Queues

301: Summertrees Road & SR 421

5/25/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95	
v/c Ratio	0.71	0.87	0.01	0.55	0.63	0.15	0.15	0.40	0.20	0.95	0.35	
Control Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0	
Queue Length 50th (ft)	146	800	0	73	436	0	20	52	0	193	14	
Queue Length 95th (ft)	217	#1240	0	125	663	27	47	98	0	#337	73	
Internal Link Dist (ft)		168			1388			207			241	
Turn Bay Length (ft)			85	210			100					
Base Capacity (vph)	289	1137	1013	152	1057	971	232	409	478	224	418	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.87	0.01	0.50	0.63	0.15	0.11	0.13	0.12	0.95	0.23	











Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

302: Williamson Boulevard & SR 421

5/25/2016

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	348	953	665	567	1164	165	1692	1148	1172	938
v/c Ratio	0.79	0.78	1.75	0.70	1.51	0.62	1.71	0.90	1.81	0.68
Control Delay	89.5	67.2	384.6	76.9	262.0	90.7	358.7	52.4	407.1	47.9
Queue Delay	0.0	52.7	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0
Total Delay	89.5	119.9	384.6	76.9	262.0	90.7	358.7	56.2	407.1	47.9
Queue Length 50th (ft)	208	382	~610	306	~1898	99	~1538	654	~1068	477
Queue Length 95th (ft)	263	438	#741	400	#2200	140	#1672	776	#1207	576
Internal Link Dist (ft)		1388		572			722			781
Turn Bay Length (ft)	280		460			205		590	690	
Base Capacity (vph)	514	1228	381	805	770	333	992	1277	648	1372
Starvation Cap Reductn	0	0	0	0	3	0	0	0	0	0
Spillback Cap Reductn	0	693	0	0	0	0	0	77	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	1.78	1.75	0.70	1.52	0.50	1.71	0.96	1.81	0.68

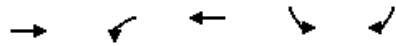
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

5/25/2016



Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	3126	292	1823	875	574
v/c Ratio	1.11	1.06	0.75	1.11	0.82
Control Delay	82.5	114.9	10.9	126.5	68.0
Queue Delay	0.4	0.0	1.1	1.0	1.5
Total Delay	82.9	114.9	12.0	127.5	69.5
Queue Length 50th (ft)	~1501	~194	257	~604	327
Queue Length 95th (ft)	m827	m#262	m173	#741	413
Internal Link Dist (ft)	572		472		
Turn Bay Length (ft)					310
Base Capacity (vph)	2828	276	2428	791	698
Starvation Cap Reductn	521	0	343	0	0
Spillback Cap Reductn	0	0	174	119	37
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.36	1.06	0.87	1.30	0.87

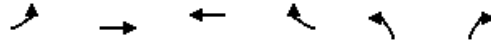
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

5/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	766	2877	1696	934	419	552
v/c Ratio	0.97	0.83	0.82	0.96	0.99	0.77
Control Delay	86.0	11.5	36.6	28.3	108.6	63.1
Queue Delay	17.8	32.4	1.4	43.2	0.0	0.2
Total Delay	103.9	43.8	38.0	71.5	108.6	63.2
Queue Length 50th (ft)	482	491	473	323	500	306
Queue Length 95th (ft)	m430	m406	584	#927	#737	389
Internal Link Dist (ft)		472	633			
Turn Bay Length (ft)					315	315
Base Capacity (vph)	791	3460	2080	978	422	721
Starvation Cap Reductn	54	747	202	186	0	0
Spillback Cap Reductn	0	764	0	0	0	10
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.04	1.07	0.90	1.18	0.99	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

305: Taylor Road & SR 421

5/25/2016



Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Group Flow (vph)	2699	729	29	2629	388
v/c Ratio	0.85	0.67	0.47	0.76	0.92
Control Delay	25.8	11.5	83.8	16.1	85.1
Queue Delay	8.7	1.5	0.0	0.0	0.0
Total Delay	34.4	13.0	83.8	16.2	85.1
Queue Length 50th (ft)	1068	378	36	396	395
Queue Length 95th (ft)	1154	574	m41	m508	#551
Internal Link Dist (ft)	633			1525	
Turn Bay Length (ft)		150	300		
Base Capacity (vph)	3190	1086	62	3481	471
Starvation Cap Reductn	492	185	0	0	0
Spillback Cap Reductn	0	0	0	48	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.00	0.81	0.47	0.77	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

306: Yorktowne Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	194	2744	215	1964	643	75	58	351	229
v/c Ratio	0.68	1.28	0.60	0.85	1.47	0.56	0.26	1.49	0.61
Control Delay	95.4	160.0	51.0	49.3	272.2	95.8	2.7	289.0	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	160.0	51.0	49.3	272.2	95.8	2.7	289.0	36.1
Queue Length 50th (ft)	240	~1471	160	874	~534	88	0	~570	50
Queue Length 95th (ft)	m285	#1559	m229	m914	#664	146	0	#787	98
Internal Link Dist (ft)		1525		1686		516			459
Turn Bay Length (ft)	235		260		150		300		
Base Capacity (vph)	285	2146	357	2315	438	372	413	236	750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	1.28	0.60	0.85	1.47	0.20	0.14	1.49	0.31

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

307: Clyde Morris Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	697	2189	91	1346	346	396	607	261	233	353
v/c Ratio	0.87	0.97	0.63	0.89	0.54	1.04	0.81	0.92	0.66	0.63
Control Delay	41.5	43.5	96.3	68.4	19.5	131.1	74.3	116.4	76.4	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	43.5	96.3	68.4	19.5	131.1	74.3	116.4	76.4	13.3
Queue Length 50th (ft)	337	998	105	568	106	~258	354	160	258	29
Queue Length 95th (ft)	m268	m749	#245	631	218	#374	407	#252	342	131
Internal Link Dist (ft)		1686		848			463		466	
Turn Bay Length (ft)	635		235		335	250		300		
Base Capacity (vph)	804	2266	145	1519	638	381	901	284	434	617
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.97	0.63	0.89	0.54	1.04	0.67	0.92	0.54	0.57

Intersection Summary












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Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

2042 PM No-Build Queue Reports

Queues

301: Summertrees Road & SR 421

5/25/2016

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	126	1052	34	67	1131	76	23	21	33	88	320
v/c Ratio	1.12	0.91	0.03	0.82	1.00	0.08	0.20	0.08	0.10	0.38	0.84
Control Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.7	39.1	0.1	127.2	57.6	0.7	45.9	52.4	0.7	52.3	48.5
Queue Length 50th (ft)	~142	915	0	66	~1198	0	18	18	0	71	159
Queue Length 95th (ft)	#280	#1410	0	#160	#1604	5	40	41	0	111	257
Internal Link Dist (ft)		168			1388			207			241
Turn Bay Length (ft)			85	210			100				
Base Capacity (vph)	112	1160	1031	82	1129	1006	116	409	441	233	484
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.91	0.03	0.82	1.00	0.08	0.20	0.05	0.07	0.38	0.66











Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

302: Williamson Boulevard & SR 421

5/25/2016

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	132	1041	1036	1100	1118	144	723	642	1276	1853
v/c Ratio	0.77	0.83	1.75	0.84	1.10	1.17	1.04	0.57	1.81	1.44
Control Delay	111.6	69.3	380.7	59.5	78.1	203.1	112.1	18.4	406.7	241.3
Queue Delay	0.0	0.0	0.0	33.7	0.6	0.0	0.0	4.0	0.0	0.0
Total Delay	111.6	69.3	380.7	93.2	78.7	203.1	112.1	22.4	406.7	241.3
Queue Length 50th (ft)	80	423	~938	609	~1467	~103	~481	126	~1163	~1559
Queue Length 95th (ft)	#137	482	m#882	m584	m#1057	#185	#617	164	#1301	#1689
Internal Link Dist (ft)		1388		572			722			781
Turn Bay Length (ft)	280		460			205		590	690	
Base Capacity (vph)	171	1255	591	1317	1013	123	697	1131	705	1289
Starvation Cap Reductn	0	0	0	283	112	0	0	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0	0	394	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.83	1.75	1.06	1.24	1.17	1.04	0.87	1.81	1.44

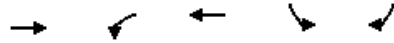
Intersection Summary

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Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

5/25/2016



Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2794	539	2501	933	753
v/c Ratio	1.12	1.15	1.05	1.13	1.03
Control Delay	87.4	124.7	39.5	131.2	100.7
Queue Delay	0.4	0.0	5.4	0.0	26.1
Total Delay	87.8	124.7	44.9	131.2	126.7
Queue Length 50th (ft)	~1352	~384	~1673	~653	~501
Queue Length 95th (ft)	m549	m#411	m#1662	#790	#651
Internal Link Dist (ft)	572		472		
Turn Bay Length (ft)					310
Base Capacity (vph)	2490	467	2388	829	728
Starvation Cap Reductn	424	0	0	0	0
Spillback Cap Reductn	6	0	30	0	171
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.35	1.15	1.06	1.13	1.35

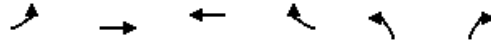
Intersection Summary

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Queues

304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

5/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	580	2801	2678	796	362	394
v/c Ratio	1.11	0.72	0.93	0.74	1.32	0.80
Control Delay	129.6	4.3	21.0	4.3	220.3	72.1
Queue Delay	0.0	23.1	19.5	5.1	0.7	0.0
Total Delay	129.6	27.4	40.5	9.3	221.0	72.1
Queue Length 50th (ft)	~409	356	766	90	~549	213
Queue Length 95th (ft)	m332	m279	783	m91	#769	285
Internal Link Dist (ft)		472	633			
Turn Bay Length (ft)					315	315
Base Capacity (vph)	524	3884	2895	1080	275	495
Starvation Cap Reductn	0	1199	315	219	0	0
Spillback Cap Reductn	0	37	76	0	14	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.11	1.04	1.04	0.92	1.39	0.80

Intersection Summary

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- m Volume for 95th percentile queue is metered by upstream signal.

Queues

305: Taylor Road & SR 421

5/25/2016



Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Group Flow (vph)	2347	847	75	3474	400
v/c Ratio	0.75	0.76	0.69	0.96	0.96
Control Delay	9.4	7.2	81.3	31.6	86.3
Queue Delay	0.7	0.8	0.0	18.3	0.0
Total Delay	10.1	8.0	81.3	49.9	86.3
Queue Length 50th (ft)	463	236	85	759	367
Queue Length 95th (ft)	498	414	m84	m534	#579
Internal Link Dist (ft)	633			1525	
Turn Bay Length (ft)		150	300		
Base Capacity (vph)	3126	1108	108	3621	431
Starvation Cap Reductn	400	79	0	0	0
Spillback Cap Reductn	0	0	0	279	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.86	0.82	0.69	1.04	0.93

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.










Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

306: Yorktowne Boulevard & SR 421

5/25/2016

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	227	1999	271	2587	486	66	101	337	243
v/c Ratio	0.63	0.92	0.73	1.19	1.42	0.52	0.38	1.49	0.64
Control Delay	89.2	37.0	48.3	135.9	256.8	95.0	4.0	291.5	65.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.2	37.0	48.3	135.9	256.8	95.0	4.0	291.5	65.2
Queue Length 50th (ft)	248	776	259	-1352	-396	77	0	-548	109
Queue Length 95th (ft)	m323	#1004	m225	m#1216	#518	132	0	#763	157
Internal Link Dist (ft)		1525		1686		516			459
Turn Bay Length (ft)	235		260		150		300		
Base Capacity (vph)	359	2163	370	2168	343	331	423	226	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.92	0.73	1.19	1.42	0.20	0.24	1.49	0.33

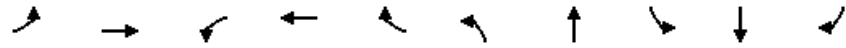
Intersection Summary

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- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

307: Clyde Morris Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	548	1796	74	2042	315	427	516	316	469	473
v/c Ratio	1.31	0.83	0.69	1.08	0.44	1.18	0.57	1.23	1.08	0.84
Control Delay	189.7	23.8	112.2	98.1	17.6	170.7	59.1	196.1	128.7	43.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	189.7	23.8	112.2	98.1	17.6	170.7	59.1	196.1	128.7	43.7
Queue Length 50th (ft)	~420	693	87	~981	103	~309	274	~236	~615	270
Queue Length 95th (ft)	m#437	m693	#169	#1066	196	#428	340	#344	#850	#445
Internal Link Dist (ft)		1686		848			463		466	
Turn Bay Length (ft)	635		235		335	250		300		
Base Capacity (vph)	419	2171	108	1892	710	362	909	257	434	564
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.83	0.69	1.08	0.44	1.18	0.57	1.23	1.08	0.84

Intersection Summary












- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

2042 AM Build Queue Reports

Queues

301: Summertrees Road & SR 421

5/25/2016

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	153	987	15	76	661	146	25	54	55	213	95
v/c Ratio	0.71	0.87	0.01	0.55	0.63	0.15	0.15	0.40	0.20	0.95	0.35
Control Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.9	35.9	0.0	80.6	27.4	2.1	50.5	75.0	1.7	105.3	21.0
Queue Length 50th (ft)	146	800	0	73	436	0	20	52	0	193	14
Queue Length 95th (ft)	217	#1240	0	125	663	27	47	98	0	#337	73
Internal Link Dist (ft)		168			1388			207			241
Turn Bay Length (ft)			85	210			100				
Base Capacity (vph)	289	1137	1013	152	1057	971	232	409	478	224	418
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.87	0.01	0.50	0.63	0.15	0.11	0.13	0.12	0.95	0.23











Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues

302: Williamson Boulevard & SR 421

5/25/2016

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	358	939	362	519	1118	156	1636	862	1264	912
v/c Ratio	0.88	0.73	1.36	0.68	1.44	0.61	1.62	0.72	1.79	0.63
Control Delay	100.0	64.1	230.9	77.1	239.1	90.5	320.8	41.8	399.5	43.1
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.1	3.4	0.0
Total Delay	100.0	64.7	230.9	77.1	239.1	90.5	320.8	41.9	402.9	43.1
Queue Length 50th (ft)	217	369	~294	305	~1792	93	~1453	421	~1148	438
Queue Length 95th (ft)	#298	424	#404	367	#2027	134	#1588	512	#1286	533
Internal Link Dist (ft)		1388		572			722			781
Turn Bay Length (ft)	280		460			205		590	690	
Base Capacity (vph)	419	1284	267	759	775	341	1012	1203	705	1455
Starvation Cap Reductn	0	0	0	0	2	0	0	0	0	0
Spillback Cap Reductn	0	102	0	0	0	0	0	13	252	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.79	1.36	0.68	1.45	0.46	1.62	0.72	2.79	0.63

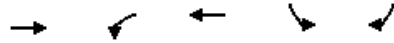
Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

5/25/2016



Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2928	294	1659	717	340
v/c Ratio	1.02	0.94	0.67	0.98	0.52
Control Delay	37.7	122.3	11.0	97.1	50.4
Queue Delay	32.0	0.0	0.1	0.0	1.5
Total Delay	69.7	122.3	11.1	97.1	51.9
Queue Length 50th (ft)	~1341	189	279	439	156
Queue Length 95th (ft)	m975	#284	286	#574	217
Internal Link Dist (ft)	572		472		
Turn Bay Length (ft)					310
Base Capacity (vph)	2864	314	2487	734	658
Starvation Cap Reductn	721	0	84	0	0
Spillback Cap Reductn	0	0	27	0	165
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.37	0.94	0.69	0.98	0.69

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

5/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	365	3027	1701	927	252	416
v/c Ratio	0.83	0.79	0.57	0.78	0.86	0.79
Control Delay	93.2	6.8	5.8	9.5	98.7	70.4
Queue Delay	0.0	1.3	0.2	6.2	0.0	0.1
Total Delay	93.2	8.0	6.0	15.7	98.7	70.5
Queue Length 50th (ft)	235	294	152	335	292	225
Queue Length 95th (ft)	m232	m291	278	1236	394	290
Internal Link Dist (ft)		472	633			
Turn Bay Length (ft)					315	315
Base Capacity (vph)	486	3830	2963	1191	344	600
Starvation Cap Reductn	0	537	471	215	0	0
Spillback Cap Reductn	0	424	0	0	0	5
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.92	0.68	0.95	0.73	0.70

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

305: Taylor Road & SR 421

5/25/2016



Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Group Flow (vph)	2714	729	29	2628	388
v/c Ratio	0.85	0.67	0.47	0.75	0.92
Control Delay	20.9	9.2	88.5	15.6	85.1
Queue Delay	1.7	0.9	0.0	0.0	0.0
Total Delay	22.5	10.1	88.5	15.6	85.1
Queue Length 50th (ft)	844	215	36	392	395
Queue Length 95th (ft)	919	330	m42	m452	#551
Internal Link Dist (ft)	633			1525	
Turn Bay Length (ft)		150	300		
Base Capacity (vph)	3190	1086	62	3481	471
Starvation Cap Reductn	298	143	0	0	0
Spillback Cap Reductn	0	0	0	32	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.94	0.77	0.47	0.76	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

306: Yorktowne Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	194	2744	215	1964	643	75	58	351	229
v/c Ratio	0.68	1.21	0.68	0.85	1.47	0.56	0.26	1.49	0.62
Control Delay	89.3	131.7	56.4	53.8	272.2	95.8	2.7	289.0	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	131.7	56.4	53.8	272.2	95.8	2.7	289.0	38.4
Queue Length 50th (ft)	235	~1426	197	874	~534	88	0	~570	54
Queue Length 95th (ft)	m278	#1495	m274	m916	#664	146	0	#787	102
Internal Link Dist (ft)		1525		1686		516			459
Turn Bay Length (ft)	235		260		150		300		
Base Capacity (vph)	285	2269	314	2314	438	320	372	236	664
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	1.21	0.68	0.85	1.47	0.23	0.16	1.49	0.34

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

307: Clyde Morris Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	697	2189	91	1346	346	396	607	261	233	353
v/c Ratio	0.91	0.94	0.72	0.85	0.53	1.04	0.83	0.89	0.67	0.64
Control Delay	50.7	38.9	107.3	64.2	18.0	131.1	76.6	110.6	77.4	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	38.9	107.3	64.2	18.0	131.1	76.6	110.6	77.4	15.5
Queue Length 50th (ft)	376	998	107	552	99	~258	355	160	258	42
Queue Length 95th (ft)	m295	m761	#246	613	208	#374	420	#244	351	153
Internal Link Dist (ft)		1686		848			463		466	
Turn Bay Length (ft)	635		235		335	250		300		
Base Capacity (vph)	765	2328	127	1587	659	381	823	295	398	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.94	0.72	0.85	0.53	1.04	0.74	0.88	0.59	0.61

Intersection Summary












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Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

2042 PM Build Queue Reports

Queues

301: Summertrees Road & SR 421

5/25/2016

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	126	1002	34	67	1099	76	23	21	33	88	320
v/c Ratio	1.12	0.90	0.03	0.55	0.97	0.08	0.20	0.08	0.09	0.38	0.84
Control Delay	182.7	40.0	0.1	83.7	51.0	0.7	45.9	52.4	0.5	52.3	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.7	40.0	0.1	83.7	51.0	0.7	45.9	52.4	0.5	52.3	48.5
Queue Length 50th (ft)	~142	899	0	64	~1133	0	18	18	0	71	159
Queue Length 95th (ft)	#280	#1312	0	#155	#1537	5	40	41	0	111	257
Internal Link Dist (ft)		168			1388			207			241
Turn Bay Length (ft)			85	210			100				
Base Capacity (vph)	112	1119	998	121	1129	1006	116	409	478	233	484
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.90	0.03	0.55	0.97	0.08	0.20	0.05	0.07	0.38	0.66

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

302: Williamson Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	135	989	953	1055	1115	136	692	583	1275	1798
v/c Ratio	0.79	0.79	1.72	0.83	1.08	1.11	1.05	0.50	1.63	1.36
Control Delay	113.5	67.0	368.9	59.2	67.2	185.9	117.4	33.9	330.8	207.3
Queue Delay	0.0	0.8	0.0	23.6	7.6	0.0	0.0	0.0	0.5	0.0
Total Delay	113.5	67.8	368.9	82.8	74.8	185.9	117.4	33.9	331.3	207.3
Queue Length 50th (ft)	82	396	-869	571	-619	-93	-466	234	-1114	-1463
Queue Length 95th (ft)	#141	453	m#856	m567	m#610	#173	#602	301	#1251	#1594
Internal Link Dist (ft)		1388		572			722			781
Turn Bay Length (ft)	280		460			205		590	690	
Base Capacity (vph)	171	1257	553	1277	1030	123	658	1159	781	1325
Starvation Cap Reductn	0	0	0	258	98	0	0	0	0	0
Spillback Cap Reductn	0	79	0	0	0	0	0	6	65	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.84	1.72	1.04	1.20	1.11	1.05	0.51	1.78	1.36

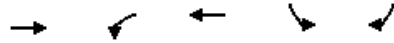
Intersection Summary

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Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

303: I-95 SB On Ramp/I-95 SB Off Ramp & SR 421

5/25/2016



Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2693	406	2580	717	542
v/c Ratio	0.98	0.97	1.03	1.00	0.85
Control Delay	23.2	123.4	38.7	103.8	72.4
Queue Delay	41.4	0.0	26.0	0.0	0.8
Total Delay	64.6	123.4	64.7	103.8	73.2
Queue Length 50th (ft)	1186	261	~665	~444	311
Queue Length 95th (ft)	m488	m#303	#608	#586	#399
Internal Link Dist (ft)	572		472		
Turn Bay Length (ft)					310
Base Capacity (vph)	2741	417	2506	715	638
Starvation Cap Reductn	600	0	0	0	0
Spillback Cap Reductn	0	0	147	0	14
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.26	0.97	1.09	1.00	0.87

Intersection Summary

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Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

304: I-95 NB Off Ramp/I-95 NB On Ramp & SR 421

5/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	413	2762	2753	625	234	297
v/c Ratio	0.86	0.71	0.92	0.59	0.87	0.61
Control Delay	82.3	8.1	13.0	2.4	104.3	58.8
Queue Delay	0.0	1.0	9.1	1.4	46.6	0.0
Total Delay	82.3	9.1	22.1	3.8	150.8	58.8
Queue Length 50th (ft)	265	366	707	71	271	140
Queue Length 95th (ft)	m270	m386	880	m64	#402	201
Internal Link Dist (ft)		472	633			
Turn Bay Length (ft)					315	315
Base Capacity (vph)	507	3905	2983	1058	295	525
Starvation Cap Reductn	0	796	249	246	0	0
Spillback Cap Reductn	0	20	16	0	76	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.89	1.01	0.77	1.07	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

305: Taylor Road & SR 421

5/25/2016



Lane Group	EBT	EBR	WBL	WBT	NBR
Lane Group Flow (vph)	2212	847	75	3378	400
v/c Ratio	0.71	0.76	0.71	0.94	0.94
Control Delay	17.6	10.8	108.3	11.1	79.9
Queue Delay	0.4	0.5	0.0	7.8	0.0
Total Delay	18.0	11.4	108.3	18.9	79.9
Queue Length 50th (ft)	435	271	92	398	351
Queue Length 95th (ft)	495	344	m105	m412	#531
Internal Link Dist (ft)	633			1525	
Turn Bay Length (ft)		150	300		
Base Capacity (vph)	3121	1108	111	3612	465
Starvation Cap Reductn	392	59	0	0	0
Spillback Cap Reductn	0	0	0	252	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.81	0.81	0.68	1.01	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.










Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

306: Yorktowne Boulevard & SR 421

5/25/2016

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	227	1884	271	2491	486	66	101	337	243
v/c Ratio	1.32	0.87	0.73	0.93	1.42	0.52	0.38	1.49	0.61
Control Delay	217.8	37.0	49.1	24.7	256.8	95.0	4.2	291.5	62.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	217.8	37.0	49.1	24.7	256.8	95.0	4.2	291.5	62.9
Queue Length 50th (ft)	~344	692	253	1075	~396	77	0	~548	107
Queue Length 95th (ft)	m#519	#901	m219	m1015	#518	132	0	#763	156
Internal Link Dist (ft)		1525		1686		516			459
Turn Bay Length (ft)	235		260		150		300		
Base Capacity (vph)	172	2163	370	2692	343	331	418	226	755
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.32	0.87	0.73	0.93	1.42	0.20	0.24	1.49	0.32

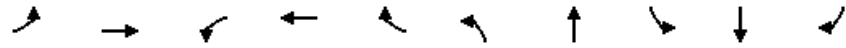
Intersection Summary

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Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

307: Clyde Morris Boulevard & SR 421

5/25/2016



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	548	1680	74	1946	315	427	516	316	469	473
v/c Ratio	1.15	0.78	0.63	1.08	0.46	1.18	0.58	1.14	1.08	0.80
Control Delay	126.5	23.4	104.8	98.8	18.0	170.7	60.2	167.8	128.7	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.5	23.4	104.8	98.8	18.0	170.7	60.2	167.8	128.7	36.5
Queue Length 50th (ft)	~388	640	87	~933	102	~309	277	~224	~615	228
Queue Length 95th (ft)	m#437	m642	#157	#1021	198	#428	343	#332	#850	388
Internal Link Dist (ft)		1686		848			463		466	
Turn Bay Length (ft)	635		235		335	250		300		
Base Capacity (vph)	476	2142	118	1808	689	362	890	276	434	588
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.78	0.63	1.08	0.46	1.18	0.58	1.14	1.08	0.80

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Appendix J
ISATe Analysis Worksheets

Evaluation Site Summary					
General Information					
Project description: I-95/Pioneer Trail IJR (No Build)					
Analyst:	VHB	Date:	5/30/2016	Area type:	Urban
First year of analysis:	2022	Total length of freeway segments for Study Period (mi): 8.565			
Last year of analysis:	2042				
Site Description					
Freeway Segments					
Number	Lanes	Study Period Length (mi)	Study Period Description		
1	6	0.500	South of SR 44 Interchange		
2	6	0.090	SR 44 NB Off Ramp Speed Change Lanes		
3	6	0.172	Between SR 44 NB Off Ramp and Loop Ramp		
4	6	0.080	SR 44 SB Loop Ramp Speed Change Lanes		
5	6	0.186	Between SR 44 Loop Ramp and NB On Ramp		
6	6	0.120	SR 44 NB On Ramp Speed Change Lanes		
7	6	4.919	North of SR 44 Interchange		
8	6	1.470	North of Rest Area		
9	6	0.048	SR 421 NB Off Ramp Speed Change Lanes		
10	6	0.440	Between SR 421 NB Off Ramp and NB On Ramp		
11	6	0.040	SR 421 NB On Ramp Speed Change Lanes		
12	6	0.500	North of SR 421 Interchange		
13	0	0.000	0		
14	0	0.000	0		
15	0	0.000	0		
16	0	0.000	0		
17	0	0.000	0		
18	0	0.000	0		
19	0	0.000	0		
20	0	0.000	0		
Ramp Segments					
Number	Study Period Description		Number	Study Period Description	
1	SR 44 NB Off Ramp Segme		21	0	
2	SR 44 NB Off Ramp Segme		22	0	
3	SR 44 SB On Ramp		23	0	
4	SR 44 SB Loop Ramp		24	0	
5	SR 44 NB On Ramp		25	0	
6	SR 44 SB Off Ramp		26	0	
7	SR 421 NB Off Ramp Segm		27	0	
8	SR 421 NB Off Ramp Segm		28	0	
9	SR 421 SB On Ramp		29	0	
10	SR 421 NB On Ramp Segm		30	0	
11	SR 421 NB On Ramp Segm		31	0	
12	SR 421 SB Off Ramp Segm		32	0	
13	SR 421 SB Off Ramp Segm		33	0	
14	SR 421 SB Off Ramp Segm		34	0	
15	0		35	0	
16	0		36	0	
17	0		37	0	
18	0		38	0	
19	0		39	0	
20	0		40	0	
Crossroad Ramp Terminals					
Number	Config.	Control	Study Period Description		
1	0	0	0		
2	0	0	0		
3	0	0	0		
4	0	0	0		
5	0	0	0		
6	0	0	0		

Output Summary								
General Information								
Project description:	I-95/Pioneer Trail IJR (No Build)							
Analyst:	VHB	Date:	5/30/2016	Area type:	Urban			
First year of analysis:	2022							
Last year of analysis:	2042							
Crash Data Description								
Freeway segments	Segment crash data available?	No	First year of crash data:					
	Project-level crash data available?	No	Last year of crash data:					
Ramp segments	Segment crash data available?	No	First year of crash data:					
	Project-level crash data available?	No	Last year of crash data:					
Ramp terminals	Segment crash data available?	No	First year of crash data:					
	Project-level crash data available?	No	Last year of crash data:					
Estimated Crash Statistics								
Crashes for Entire Facility		Total	K	A	B	C	PDO	
Estimated number of crashes during Study Period, crashes:		2610.5	21.3	55.7	284.1	454.4	1795.0	
Estimated average crash freq. during Study Period, crashes/yr:		124.3	1.0	2.7	13.5	21.6	85.5	
Crashes by Facility Component		Nbr. Sites	Total	K	A	B	C	PDO
Freeway segments, crashes:		12	2297.0	17.8	45.0	236.2	390.3	1607.7
Ramp segments, crashes:		14	313.5	3.5	10.7	47.9	64.1	187.3
Crossroad ramp terminals, crashes:		0	0.0	0.0	0.0	0.0	0.0	0.0
Crashes for Entire Facility by Year		Year	Total	K	A	B	C	PDO
Estimated number of crashes during the Study Period, crashes:		2022	82.8	0.7	1.9	9.6	15.2	55.4
		2023	86.5	0.7	2.0	9.9	15.8	58.0
		2024	90.2	0.8	2.0	10.3	16.4	60.7
		2025	94.0	0.8	2.1	10.7	17.0	63.4
		2026	97.9	0.8	2.2	11.1	17.6	66.2
		2027	101.8	0.9	2.2	11.4	18.3	69.0
		2028	105.8	0.9	2.3	11.8	18.9	71.9
		2029	109.8	0.9	2.4	12.2	19.5	74.8
		2030	113.9	0.9	2.5	12.6	20.1	77.7
		2031	118.0	1.0	2.6	13.0	20.8	80.7
		2032	122.2	1.0	2.6	13.4	21.4	83.8
		2033	126.8	1.0	2.7	13.8	22.1	87.2
		2034	131.5	1.1	2.8	14.3	22.8	90.6
		2035	136.3	1.1	2.9	14.7	23.5	94.1
		2036	141.1	1.1	3.0	15.1	24.2	97.7
		2037	146.0	1.2	3.1	15.6	24.9	101.3
		2038	151.0	1.2	3.1	16.0	25.7	105.0
		2039	156.0	1.2	3.2	16.5	26.4	108.7
		2040	161.1	1.3	3.3	16.9	27.1	112.5
		2041	166.3	1.3	3.4	17.4	27.9	116.3
2042	171.5	1.3	3.5	17.8	28.6	120.2		
2043								
2044								
2045								
Distribution of Crashes for Entire Facility								
Crash Type	Crash Type Category	Estimated Number of Crashes During the Study Period						
		Total	K	A	B	C	PDO	
Multiple vehicle	Head-on crashes:	5.6	0.1	0.2	1.2	2.0	2.0	
	Right-angle crashes:	30.0	0.3	0.9	4.6	7.6	16.5	
	Rear-end crashes:	976.1	8.6	21.9	114.8	189.2	641.7	
	Sideswipe crashes:	329.0	2.1	5.2	27.6	45.4	248.7	
	Other multiple-vehicle crashes:	38.3	0.4	1.0	5.0	8.2	23.7	
	Total multiple-vehicle crashes:	1378.9	11.5	29.2	153.2	252.4	932.6	
Single vehicle	Crashes with animal:	17.4	0.0	0.1	0.5	0.7	16.1	
	Crashes with fixed object:	903.7	7.1	19.1	94.3	145.5	637.6	
	Crashes with other object:	115.2	0.4	1.0	5.1	8.2	100.5	
	Crashes with parked vehicle:	18.1	0.1	0.4	1.8	2.8	13.0	
	Other single-vehicle crashes:	177.2	2.2	6.0	29.2	44.7	95.2	
	Total single-vehicle crashes:	1231.6	9.8	26.5	130.9	202.0	862.4	
Total crashes:		2610.5	21.3	55.7	284.1	454.4	1795.0	

Evaluation Site Summary					
General Information					
Project description: I-95/Pioneer Trail IJR (Build)					
Analyst:	VHB	Date:	5/30/2016	Area type:	Urban
First year of analysis:	2022	Total length of freeway segments for Study Period (mi): 8.565			
Last year of analysis:	2042				
Site Description					
Freeway Segments					
Number	Lanes	Study Period Length (mi)	Study Period Description		
1	6	0.500	South of SR 44 Interchange		
2	6	0.090	SR 44 NB Off Ramp Speed Change Lanes		
3	6	0.172	Between SR 44 NB Off Ramp and Loop Ramp		
4	6	0.080	SR 44 SB Loop Ramp Speed Change Lanes		
5	6	0.186	Between SR 44 Loop Ramp and NB On Ramp		
6	6	0.120	SR 44 NB On Ramp Speed Change Lanes		
7	6	1.906	North of SR 44 Interchange		
8	6	0.233	Pioneer Trail NB Off Ramp Speed Change Lanes		
9	6	0.440	Between Pioneer Trail NB Off Ramp and NB On Ramp		
10	6	0.233	Pioneer Trail NB On Ramp Speed Change Lanes		
11	6	2.107	North of Pioneer Trail Interchange		
12	6	1.470	North of Rest Area		
13	6	0.048	SR 421 NB Off Ramp Speed Change Lanes		
14	6	0.440	Between SR 421 NB Off Ramp and NB On Ramp		
15	6	0.040	SR 421 NB On Ramp Speed Change Lanes		
16	6	0.500	North of SR 421 Interchange		
17	0	0.000	0		
18	0	0.000	0		
19	0	0.000	0		
20	0	0.000	0		
Ramp Segments					
Number	Study Period Description			Number	Study Period Description
1	SR 44 NB Off Ramp Segme			21	0
2	SR 44 NB Off Ramp Segme			22	0
3	SR 44 SB On Ramp			23	0
4	SR 44 SB Off Ramp (loop)			24	0
5	SR 44 NB On Ramp			25	0
6	SR 44 SB Off Ramp			26	0
7	Pioneer Trail NB Off Ramp			27	0
8	Pioneer Trail NB Off Ramp			28	0
9	Pioneer Trail SB On Ramp			29	0
10	Pioneer Trail NB On Ramp			30	0
11	Pioneer Trail SB Off Ramp			31	0
12	Pioneer Trail SB Off Ramp			32	0
13	SR 421 NB Off Ramp Segm			33	0
14	SR 421 NB Off Ramp Segm			34	0
15	SR 421 SB On Ramp			35	0
16	SR 421 NB On Ramp Segm			36	0
17	SR 421 NB On Ramp Segm			37	0
18	SR 421 SB Off Ramp Segm			38	0
19	SR 421 SB Off Ramp Segm			39	0
20	SR 421 SB Off Ramp Segm			40	0
Crossroad Ramp Terminals					
Number	Config.	Control	Study Period Description		
1	0	0	0		
2	0	0	0		
3	0	0	0		
4	0	0	0		
5	0	0	0		
6	0	0	0		

Output Summary							
General Information							
Project description:	I-95/Pioneer Trail IJR (Build)						
Analyst:	VHB	Date:	5/30/2016	Area type:	Urban		
First year of analysis:	2022						
Last year of analysis:	2042						
Crash Data Description							
Freeway segments	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Ramp segments	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Ramp terminals	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Estimated Crash Statistics							
Crashes for Entire Facility							
Estimated number of crashes during Study Period, crashes:		2625.8	21.3	55.4	283.3	455.1	1810.8
Estimated average crash freq. during Study Period, crashes/yr:		125.0	1.0	2.6	13.5	21.7	86.2
Crashes by Facility Component							
	Nbr. Sites	Total	K	A	B	C	PDO
Freeway segments, crashes:	16	2342.4	18.1	45.6	239.6	397.0	1642.1
Ramp segments, crashes:	20	283.4	3.2	9.7	43.7	58.1	168.7
Crossroad ramp terminals, crashes:	0	0.0	0.0	0.0	0.0	0.0	0.0
Crashes for Entire Facility by Year							
	Year	Total	K	A	B	C	PDO
Estimated number of crashes during the Study Period, crashes:	2022	83.2	0.7	1.9	9.5	15.2	55.9
	2023	87.0	0.7	1.9	9.9	15.8	58.6
	2024	90.8	0.8	2.0	10.3	16.5	61.3
	2025	94.7	0.8	2.1	10.7	17.1	64.1
	2026	98.7	0.8	2.2	11.1	17.7	66.9
	2027	102.7	0.9	2.2	11.4	18.3	69.8
	2028	106.8	0.9	2.3	11.8	19.0	72.8
	2029	110.9	0.9	2.4	12.2	19.6	75.8
	2030	115.1	0.9	2.5	12.6	20.2	78.8
	2031	119.4	1.0	2.5	13.0	20.9	81.9
	2032	123.7	1.0	2.6	13.4	21.5	85.1
	2033	128.1	1.0	2.7	13.8	22.2	88.4
	2034	132.7	1.1	2.8	14.2	22.9	91.7
	2035	137.3	1.1	2.9	14.7	23.6	95.1
	2036	141.9	1.1	2.9	15.1	24.3	98.5
	2037	146.6	1.2	3.0	15.5	25.0	102.0
	2038	151.4	1.2	3.1	15.9	25.7	105.5
	2039	156.3	1.2	3.2	16.4	26.4	109.1
	2040	161.2	1.3	3.3	16.8	27.1	112.8
	2041	166.1	1.3	3.4	17.2	27.8	116.5
2042	171.2	1.3	3.4	17.7	28.5	120.2	
2043							
2044							
2045							
Distribution of Crashes for Entire Facility							
Crash Type	Crash Type Category	Estimated Number of Crashes During the Study Period					
		Total	K	A	B	C	PDO
Multiple vehicle	Head-on crashes:	5.7	0.1	0.2	1.2	2.1	2.1
	Right-angle crashes:	31.0	0.3	0.9	4.6	7.7	17.3
	Rear-end crashes:	1016.6	8.8	22.4	117.8	194.7	672.8
	Sideswipe crashes:	342.0	2.1	5.4	28.5	47.0	258.9
	Other multiple-vehicle crashes:	38.9	0.4	1.0	5.1	8.3	24.2
	Total multiple-vehicle crashes:	1434.1	11.8	29.9	157.3	259.8	975.3
Single vehicle	Crashes with animal:	17.0	0.0	0.1	0.4	0.7	15.7
	Crashes with fixed object:	873.6	6.8	18.3	90.8	140.7	617.0
	Crashes with other object:	113.2	0.4	1.0	5.0	8.1	98.6
	Crashes with parked vehicle:	17.4	0.1	0.3	1.7	2.7	12.5
	Other single-vehicle crashes:	170.5	2.1	5.7	28.1	43.1	91.6
	Total single-vehicle crashes:	1191.7	9.4	25.4	126.1	195.2	835.5
	Total crashes:	2625.8	21.3	55.4	283.3	455.1	1810.8