

## 1.2 PURPOSE AND NEED

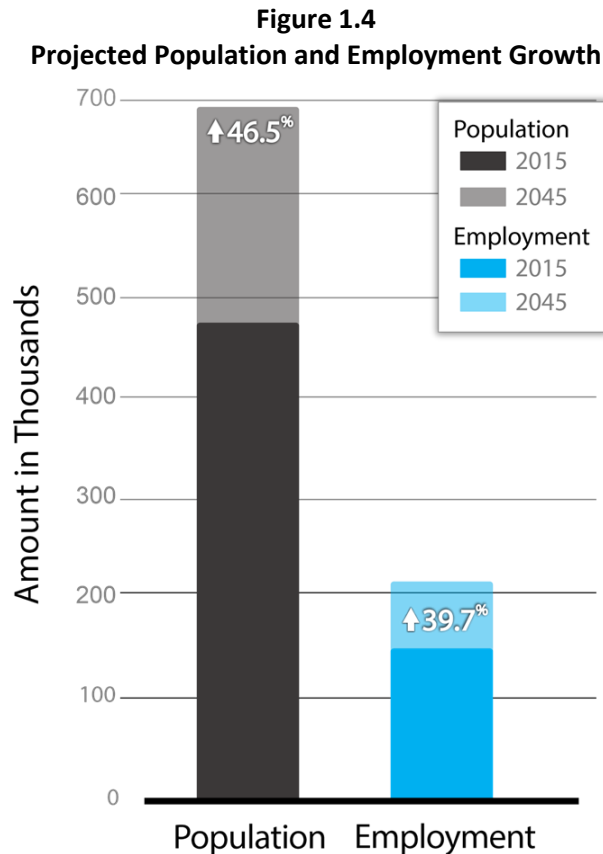
The purpose of this project is to accommodate travel demand by adding capacity, improve travel time reliability, improve operations and safety, and enhance evacuation and emergency response.

The Turnpike Extension/US 1 corridor connects the Florida mainland and the Florida Keys – a chain of small islands popular to tourists of the state and permanent home to over 82,000 residents (based on 2020 Census). During heavy tourist timeframes and weekends, the Keys inbound traffic alone or in combination with local traffic, results in queues into the mainline lanes of the southern Turnpike Extension segment. The recorded frequency of southbound exit ramps queue backups into the mainline lanes has been steadily increasing since 2015. There were 93 incidents of queueing observed in 2015, 80 in 2016, 105 in 2017, 72 incidents in 2018. Queue incidents typically occur during non-typical peak hours; the worst case occurs when the in-bound traffic from the Florida Keys mixes with heavy commuter/typical traffic. The US 1/Palm Drive ramp intersection currently operates at LOS E during both peak hours.

The Turnpike Extension in the study corridor is a significant part of the Strategic Intermodal System (SIS), important to the state's economy and mobility. The US 1/Turnpike Extension connection also serves as a critical evacuation route during events such as a hurricane higher than Category 3. The project area is in storm surge planning zones A, B, and C, which are at greatest risk for storm surges during hurricanes. Florida's Turnpike Extension is the nearest designated emergency evacuation route with access from US 1 and Campbell Drive in this area. The US 1/Palm Drive intersection was also identified as a constrained point on the evacuation route and several improvement options were studied in a 2012 evacuation planning assessment.

The study area falls within the South Transportation Planning Area as defined by the Miami-Dade Transportation Planning Organization (TPO). According to Miami-Dade TPO, between 2015 through 2045, the study area population and employment are projected to grow by 46.5 percent and 39.7 percent, respectively. The projected population and employment growth rates are depicted on **Figure 1.4**. The 2015-2045 micro analysis zone (MAZ) population changes are shown in **Figure 1.5**. Due to projected regional population and employment growth, the anticipated land development around the project area and the need to enhance emergency evacuation process, it is important to explore capacity improvements options including assessment of additional access and modifications of existing interchanges. The new interchange at Lucy Street and the modifications of the US 1/SR 5 interchange are being proposed to address existing and projected future traffic congestion, capacity deficiencies, related safety issues, improving direct access and provide efficient emergency evacuation options.

As part of Financial Project ID 439545-1, this study evaluated the ultimate improvements under the Florida's Turnpike Mainline Widening Project from US 1 (MP 0) and Campbell Drive (MP 3) in Miami-Dade County. The traffic analysis includes the evaluation of the proposed additional mainline capacity, safety, and operational and engineering (SO&E) acceptability for the proposed Lucy Street interchange and the modifications to the US 1 interchange.



Source: Miami-Dade TPO LRTP Figure 1-3: Population and Employment Growth by Transportation Planning Area

### 1.3 PLANNED AND PROGRAMMED TRANSPORTATION PROJECTS

Planned and programmed improvements within the study area have been considered in developing the traffic and interchange concepts and are included in the analysis. The key planned improvements include:

- Turnpike Extension Widening from North of Campbell Drive to North of Tallahassee Road [FPID: 444111-1] and FTE Work Program (2018/2019 – 2022/2023) and Master Plan (2017 – 2045)
- Florida Department of Transportation (FDOT) District 6 Five-Year Work Program and FDOT Florida Intrastate Highway System (FIHS)/SIS Plan
- Southeast Florida’s 2045 Regional Long-Range Transportation Plan (RLRTP) within the study area. This includes Miami-Dade TPO, Broward Metropolitan Planning Organization (MPO), Palm Beach Transportation Planning Agency (TPA)
- SR 997/Krome Avenue Truck By-Pass PD&E Study [FPID: 405575-2] and City and County Access Management Plans. This project was recently completed and is now open for traffic
- SW 344<sup>th</sup> Street (Palm Drive) Improvements from US 1 to SW 172<sup>nd</sup> Avenue. Also, this project was recently completed and is now open for traffic