
metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP

# 2045

## Metropolitan Transportation Plan

Technical Series # 4

Existing Conditions & Area Profile

January 2020

# What is in this document?

The purpose of this technical series is to establish a profile of the MetroPlan Orlando region by looking at a current snapshot of the planning area and pulling valuable insights from historical trends. Our community is the hub of Central Florida, offering employment opportunities that draw diverse transportation system users through, around, and within the area.

This report provides an overview of the region's demographic, land use, mobility, and emerging technology conditions. The region's existing transportation system is also summarized by establishing an inventory of the infrastructure assets along with some indicators of how the system is performing. The data and existing conditions established here will form the basis of future forecasts along with the development of alternate future scenarios. A comparison of the future 2045 alternatives and their relation to the existing conditions will help develop policy direction as part of the master planning process for the 2045 Metropolitan Transportation Plan (MTP).

## HOW TO GET INVOLVED IN THE 2045 PLAN

**Online at MetroPlanOrlando.org**
Learn more about how long range planning works and sign up for our e-newsletter to get email updates on comment opportunities

**Request printed material**
If you don't have digital access and prefer information in paper form, you can make that request by calling the number below

**In person**
Invite us to attend your event or present to your group by contacting our community outreach staff

**Questions?**
Contact our community outreach staff at ***MTP@MetroPlanOrlando.org*** or ***407-481-5672***

**On social media**
Follow us on Facebook and Twitter to learn about transportation news and when we'll be out in the community



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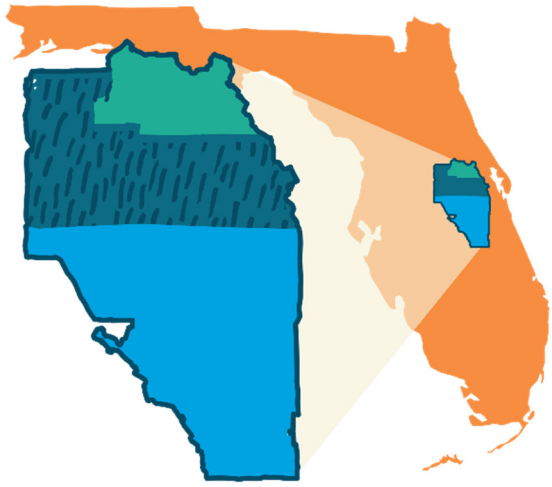
# Introduction

MetroPlan Orlando is the designated Metropolitan Planning Organization (MPO) for the Central Florida region shown in Figure 4.1. The planning area includes Orange, Seminole and Osceola counties – the Orlando and Kissimmee urbanized areas. This three county area will be called "the region" throughout this report. A key responsibility of MetroPlan Orlando is to prepare the region's 2045 Metropolitan Transportation Plan (MTP). The development of the MTP will take a systems planning approach that fully addresses all transportation modes and the relationship and connectivity between modes. The result will be a comprehensive planning document which will guide the development of the region's transportation facilities and services over the coming decades.



The Existing Conditions & Area Profile technical series plays an important role in the 2045 MTP by providing a foundation of data specific to the region. This document is organized into four segments, each providing a key building block in the Plan's foundation.

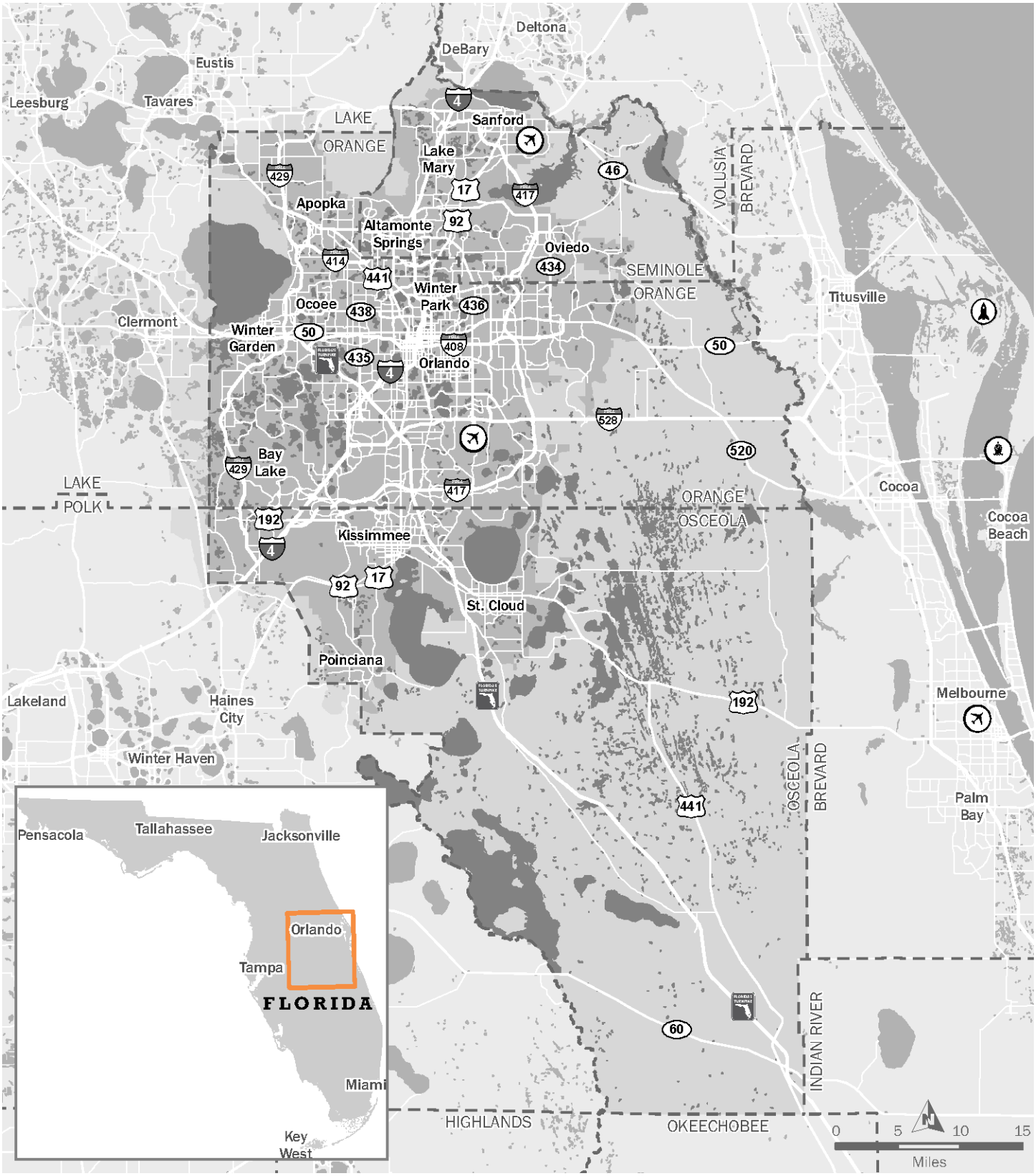
| | | |
|---|---|---|
| 1 | Learning from the Past | *Major Milestones + Key Trends* |
| 2 | Area Profile | *Community Composition + Infrastructure Assets + System Performance* |
| 3 | Base Year | *2015 Base Year Conditions* |
| 4 | Moving Forward | *Future Land Use + Prelude to Scenario Planning* |

The report begins "Learning from the Past" with a review of major milestones and historic trends. Then the Area Profile looks at community composition such as demographics and indicators for work and play to tell the story of Central Florida's people and how they move about to enjoy life in the Sunshine State. This section also tackles a foundational look at the transportation system's infrastructure by inventorying current assets and reviewing the system's performance. Another foundational block of this report is to document and reinforce that the official Base Year for the MTP is 2015. It will serve the foundation for traffic demand model inputs (population + employment) and trend/impact analyses.

The final section, "Moving Forward," discusses the process that will be used in the development of forecasts for the horizon year of 2045 along with an introduction of scenario planning.



## Figure 4.1 | MetroPlan Orlando Study Area



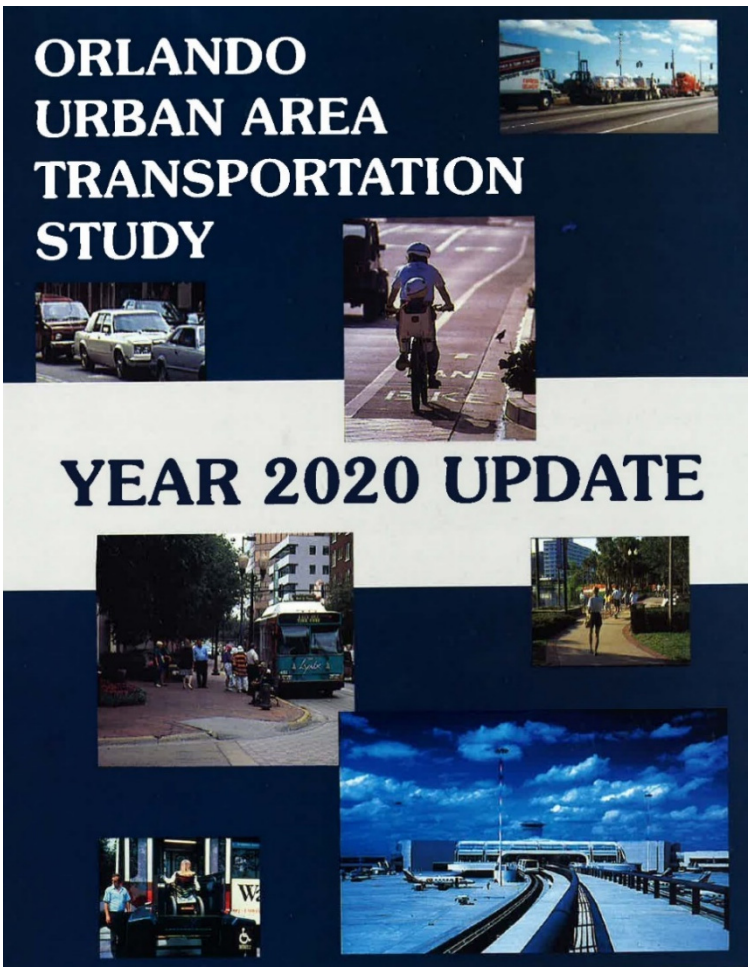
# Learning from the Past

Many major milestones have shaped the Central Florida region from 1990 to today. The Great Recession is now firmly in the rear view mirror and Central Florida, like other metropolitan areas around the U.S., is experiencing rapid population growth and a stronger than ever surge in travel and tourism. With the growing accessibility of fast broadband speeds, improved cellular networks, and accessibility to smartphones, personal technology is rapidly transforming how people travel, shop, work, play, and even meet one another.

Major milestones in internet-based technology and regionally significant events have served as the greatest transportation system disrupters in recent decades. It is more important now than ever to take into account the trends of the past and provide insights for where crucial shifts may have occurred and how those shifts might inform future land use and transportation system scenarios.

The Long Range Transportation Plan for 2020 was prepared in the late 1990s and envisioned a multimodal 2020. Several key projects that were visualized did get or are getting completed, including the major rework of Interstate 4 and the completion of the Western Beltway around Orlando.

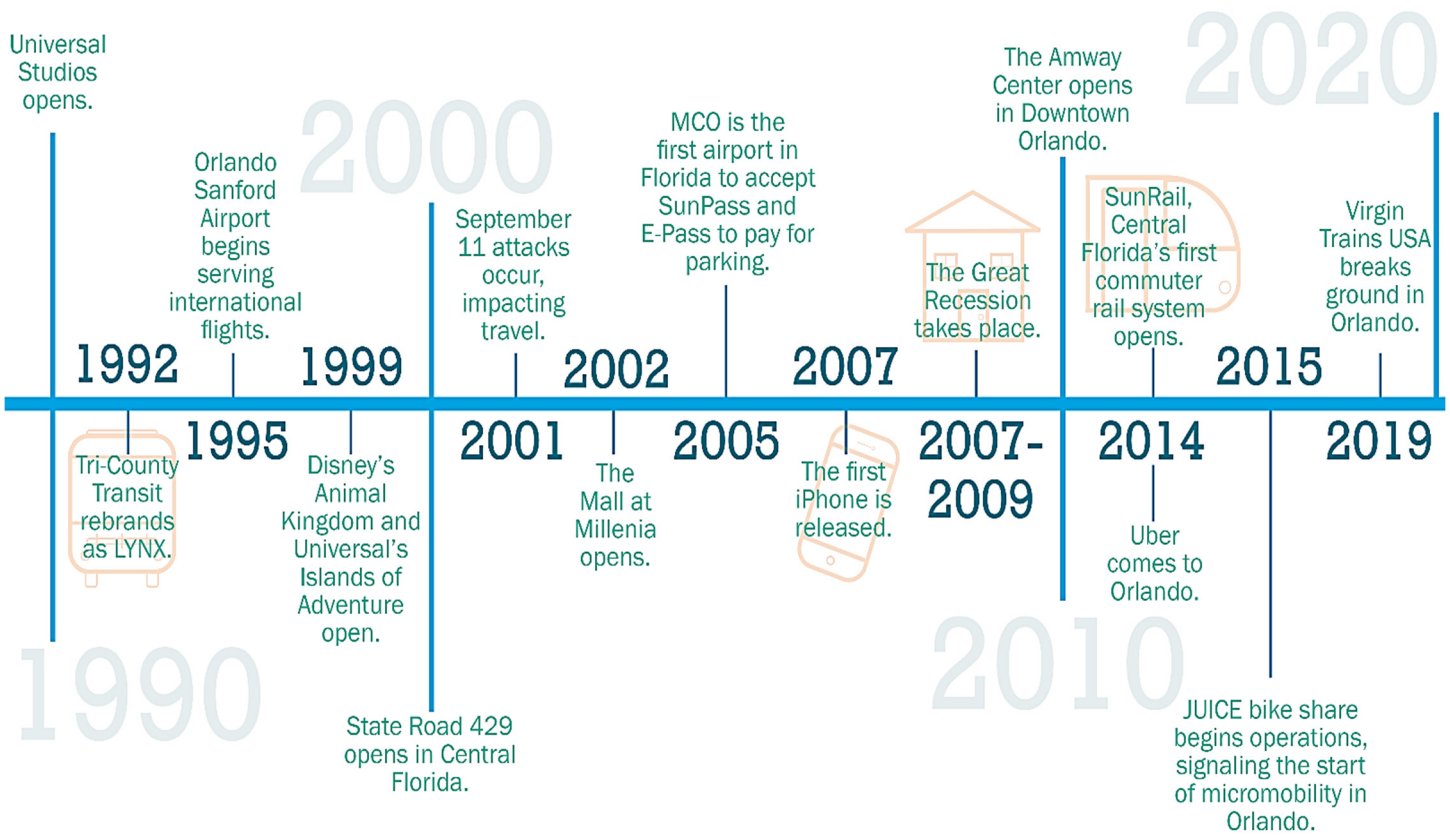
Much of the transit planning for the region at that time centered around light rail improvements in the core of the region, generally paralleling I-4. While this project did not occur, a form of rail transit for the region was achieved through SunRail. The 2020 Plan did address bicycle, pedestrian and freight modes, but the data to build upon planning for these modes was limited.



# Major Milestones

Transportation has been an integral part of our region's history and has shaped what our community is today. Central Florida has grown from a small metropolitan area into arguably the world's premier international tourist destination and a bustling, diverse metro area. The transformation started with the opening of the Walt Disney World Resort in 1971 and continued to gain momentum through the 1970s and 80s. The region's growth and international status has further strengthened since 1990. A summary of major milestones since 1990 are summarized in Figure 4.2. In addition to growth, advancements in technology have had a significant impact on mobility in the region.

**Figure 4.2 | Major Milestones Timeline**



# Tracking Trends

Previously completed *Tracking the Trends* reports by MetroPlan Orlando identified several major trends and travel implications for the Orlando Metropolitan Area. These include a growing and more diversified population; increasing visitor impact; aging infrastructure; and concerns with pedestrian and bicycle safety. This section builds upon this previous analysis.

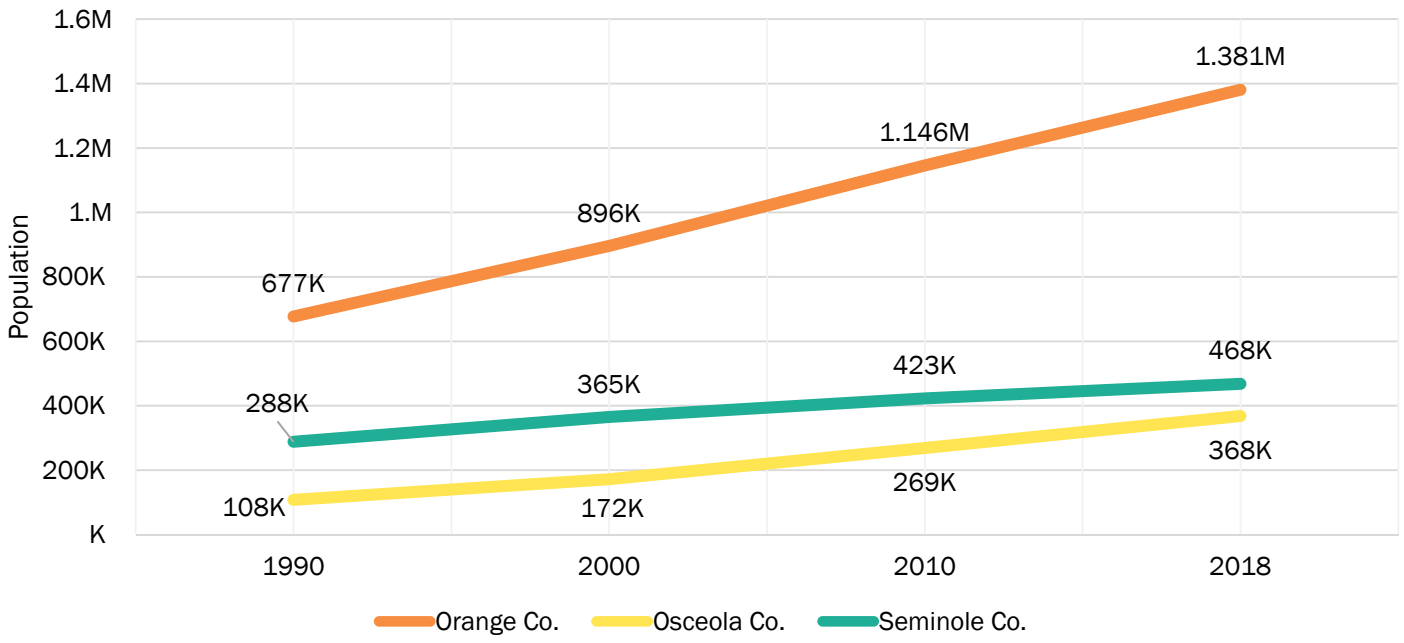
## Population

Population is a key variable driving transportation movements in the region. Historical population data for the three Central Florida counties were collected from the U.S. Census Bureau for the 1990 through 2018 timeframe.

### Historical Trend and Density

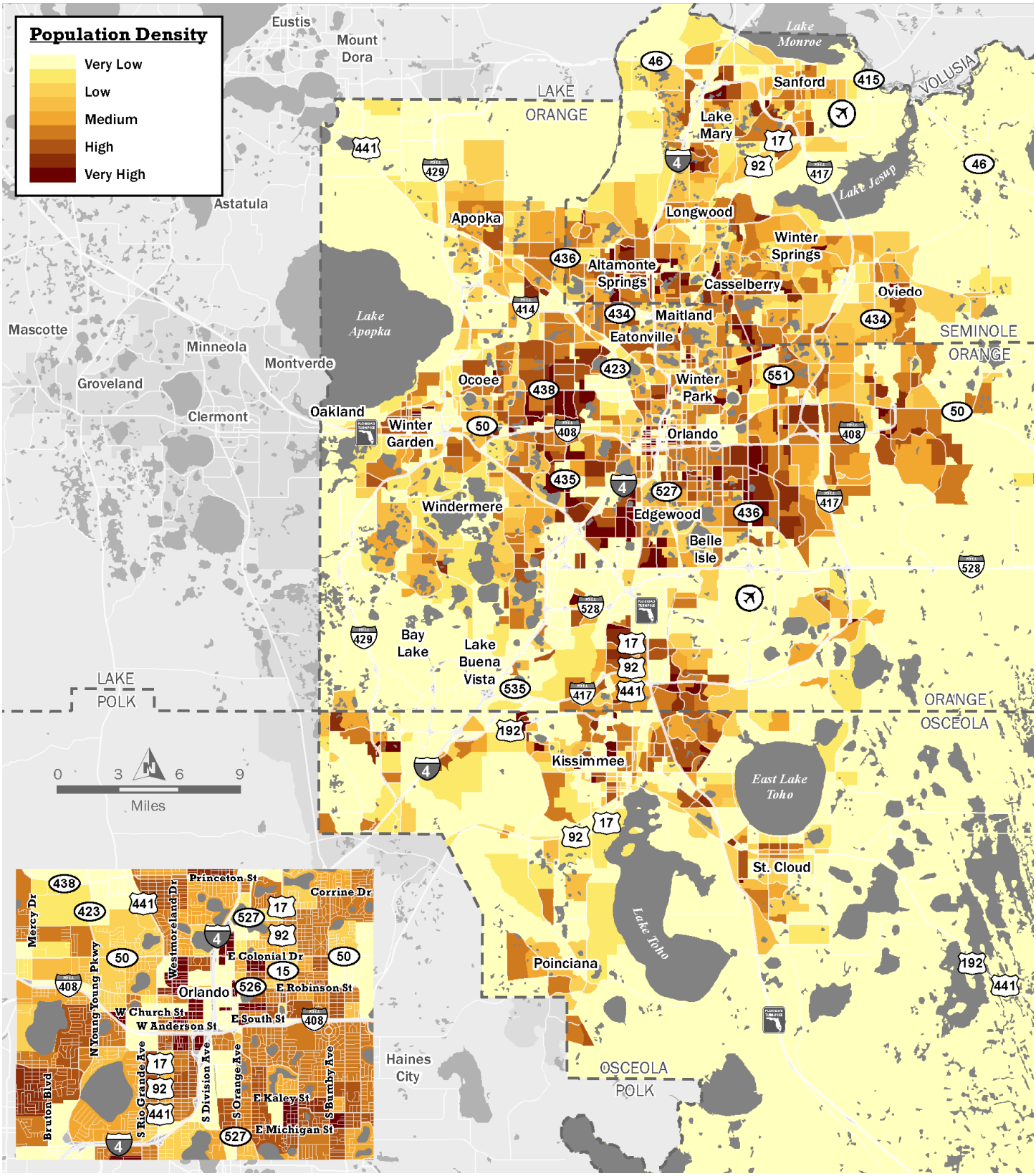
Figure 4.3 graphically summarizes the population growth trend and shows that the regional population grew from about 1.1 million in 1990 to 2.2 million residents in 2018. This represents an increase of 1.1 million, which is equivalent to a compound average annual growth rate (CAAGR) of 2.6%. It was in 2014 that the region's population reached a major milestone of 2 million residents. Within the region, the fastest growing county was Osceola (at 4.5%/yr.), while Seminole County was relatively the slowest (at 1.8%/yr.) since 1990. Overall, Orange County has been the largest contributor to the absolute regional growth with about 700,000 net residents added (equivalent to 2.6%/yr.) since 1990. Comparatively, Florida grew at a slower pace of 1.8% than the region over the same timeframe. Population density in the 3-county region has reached 853 people per square mile as of 2017. This is significantly higher than population density (at 391 persons/sq. mile) for the state as a whole. The relative densities throughout the region are shown on Figure 4.4 with the densest parts of the region generally located within municipalities and are typically surrounded by limited access expressways.

**Figure 4.3 | Region Population Trend**




Data Source: U.S. Census Bureau 2019

## Figure 4.4 | Population Density (2017)




Data Source: U.S. Census Bureau 2017

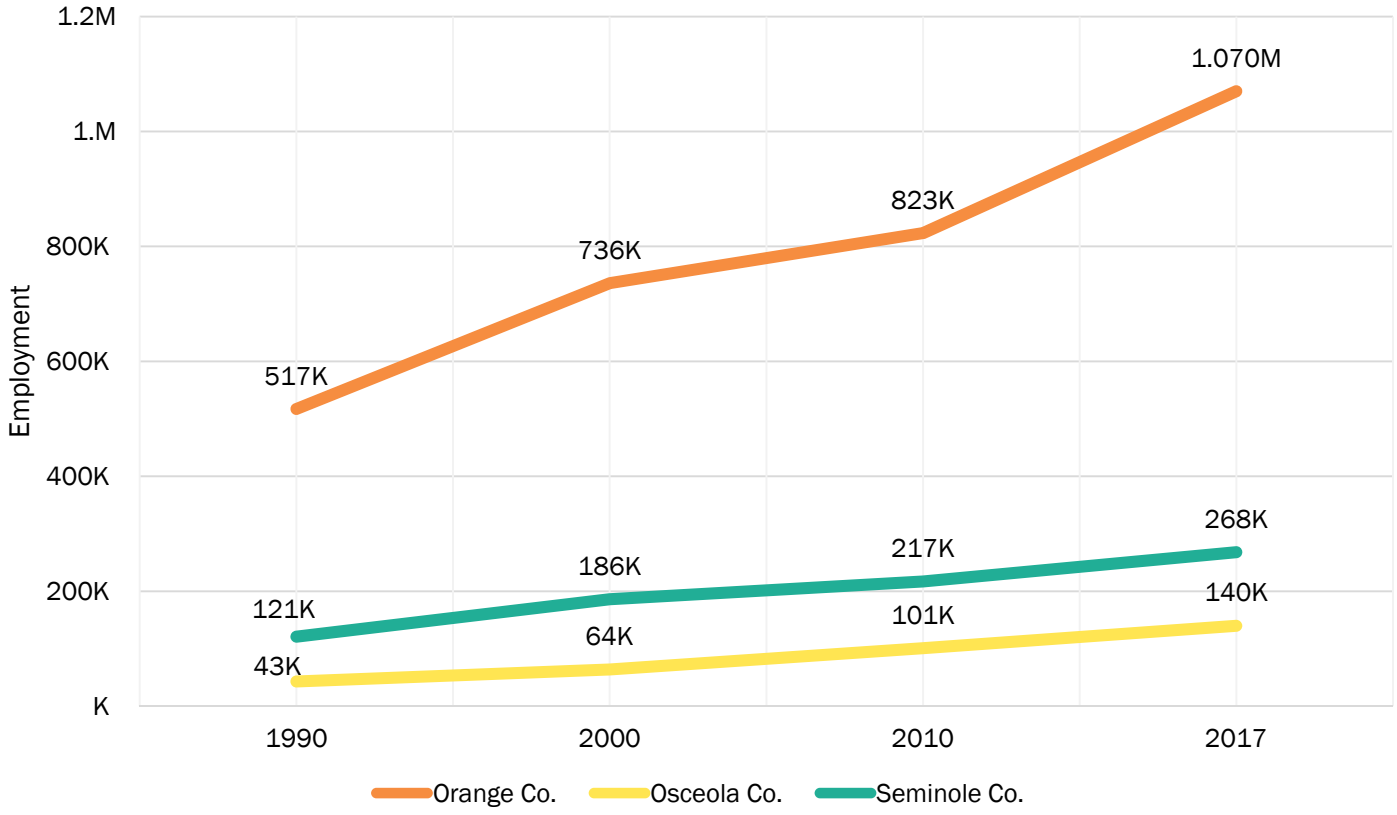
# Employment and Unemployment

Employment and unemployment trends are typically more volatile than population trends and more closely resemble overall economic and business cycles. Historical labor market data for the three Central Florida counties from 1990 onwards were collected from the U.S. Bureau of Economic Analysis and the U.S. Bureau of Labor Statistics.

## Historical Employment Trend and Regional Employment Densities

While the region's total employment experienced dips related to the 2001 and the 2007-2009 recessions, it has continued to expand at a robust pace of 2.9%/yr., leading to an overall gain of almost 800,000 net jobs since 1990 to reach the level of almost 1.5 million employed in 2017[1]. Out of the 3-county total, more than 550,000 net jobs since 1990 (or 2.7%/yr.) were generated in Orange County, about 147,000 (3.0%/yr.) in Seminole County, and 97,000 (4.5%/yr.) in Osceola County. All employment annual growth rates in the region exceeded the statewide average of 2.1%/yr. since 1990. This trend is shown in Figure 4.5. As shown in Figure 4.6, locations of dense employment are concentrated in the core of the region and generally near limited access freeways.

**Figure 4.5 | Regional Employment Trends by County**

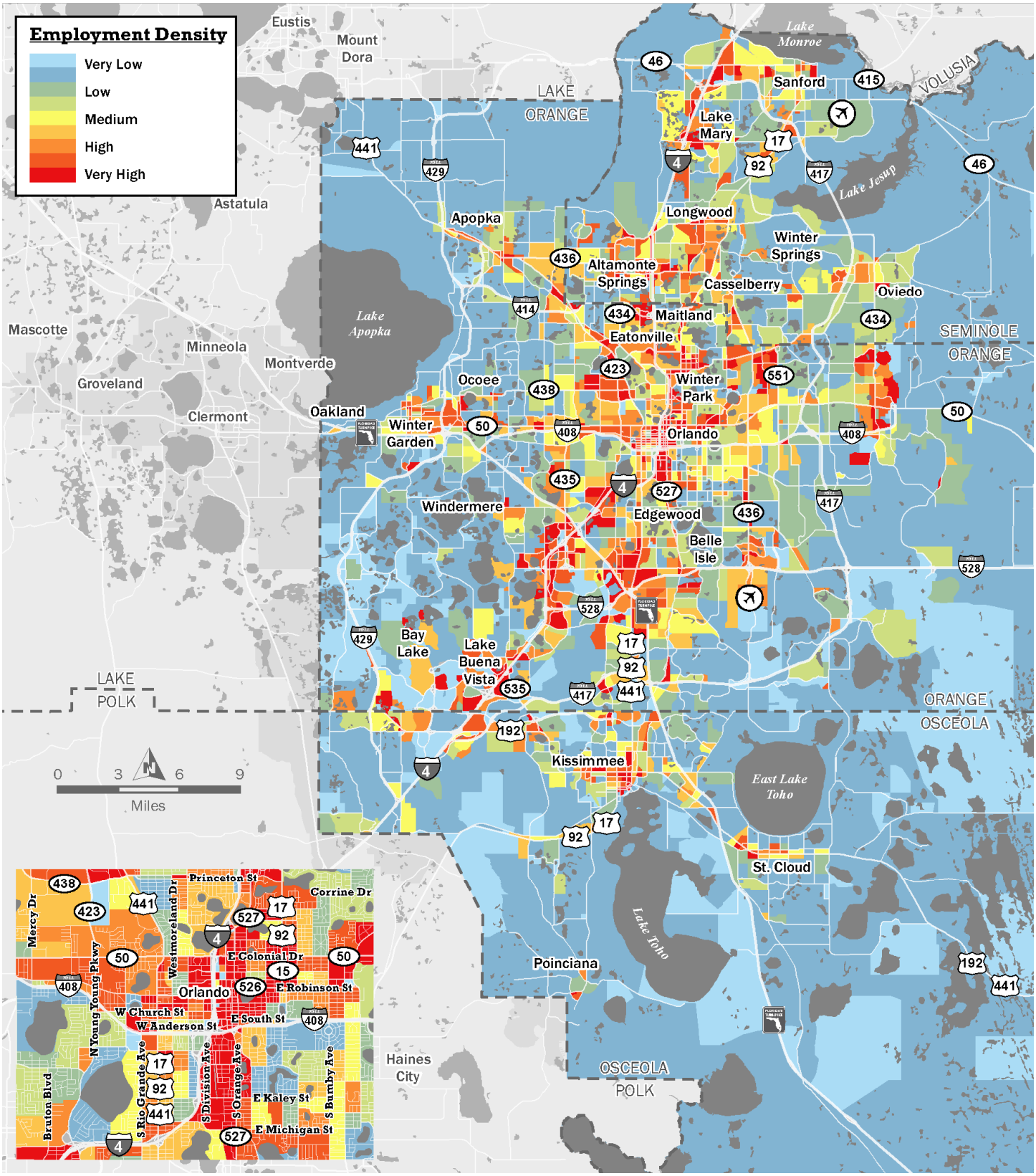



Data Source: Bureau of Economic Analysis 2019

[1] Data Source: Bureau of Economic Analysis 2019



## Figure 4.6 | Employment Density (2017)

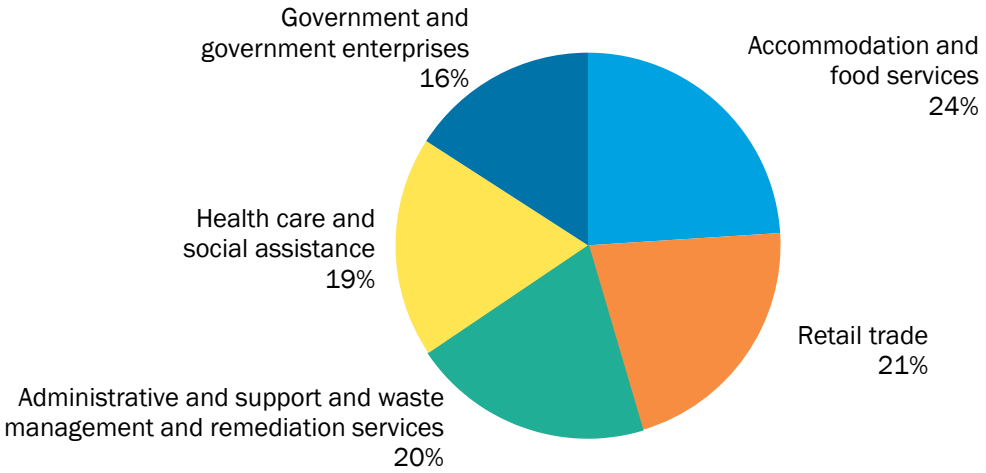



Data Source: U.S. Census Bureau 2017

## Industry Employment

Figure 4.7 shows the top five industries in the region. As expected, the largest industries are service-oriented. The list is topped by the accommodation and food services industry, which is highly related to visitor activity.

### Figure 4.7 | Industry Employment

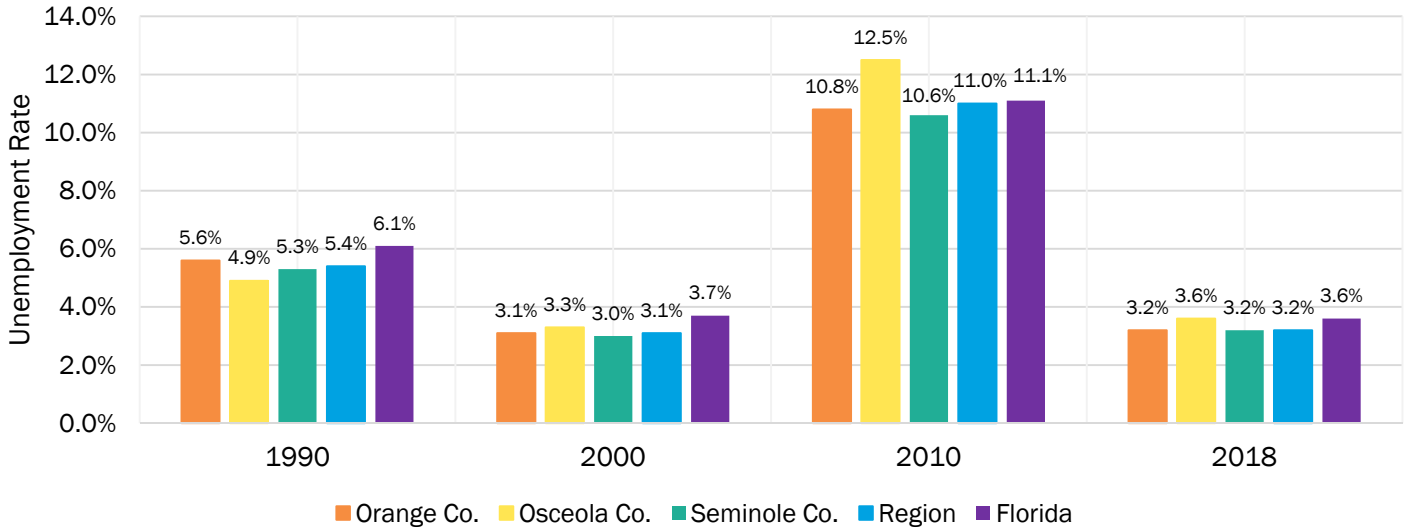



Data Source: Bureau of Economic Analysis 2017

## Unemployment Rate

Trends related to unemployment throughout the region are summarized in Figure 4.8. It shows that the average annual unemployment rate for the region was 5.4% in 1990. As of the most recent complete year, 2018, the area's average unemployment rate is at a low rate of 3.2%, and continues to trend downward as the economic expansion continues into 2019. Orange and Seminole Counties' rates have been similar, but slightly lower than the region averages, while Osceola County's rate has trended higher and closer to the statewide averages. This is a dramatic improvement from the region's high of 11% in 2010 during the aftermath of the Great Recession.

### Figure 4.8 | Historic Unemployment Rate



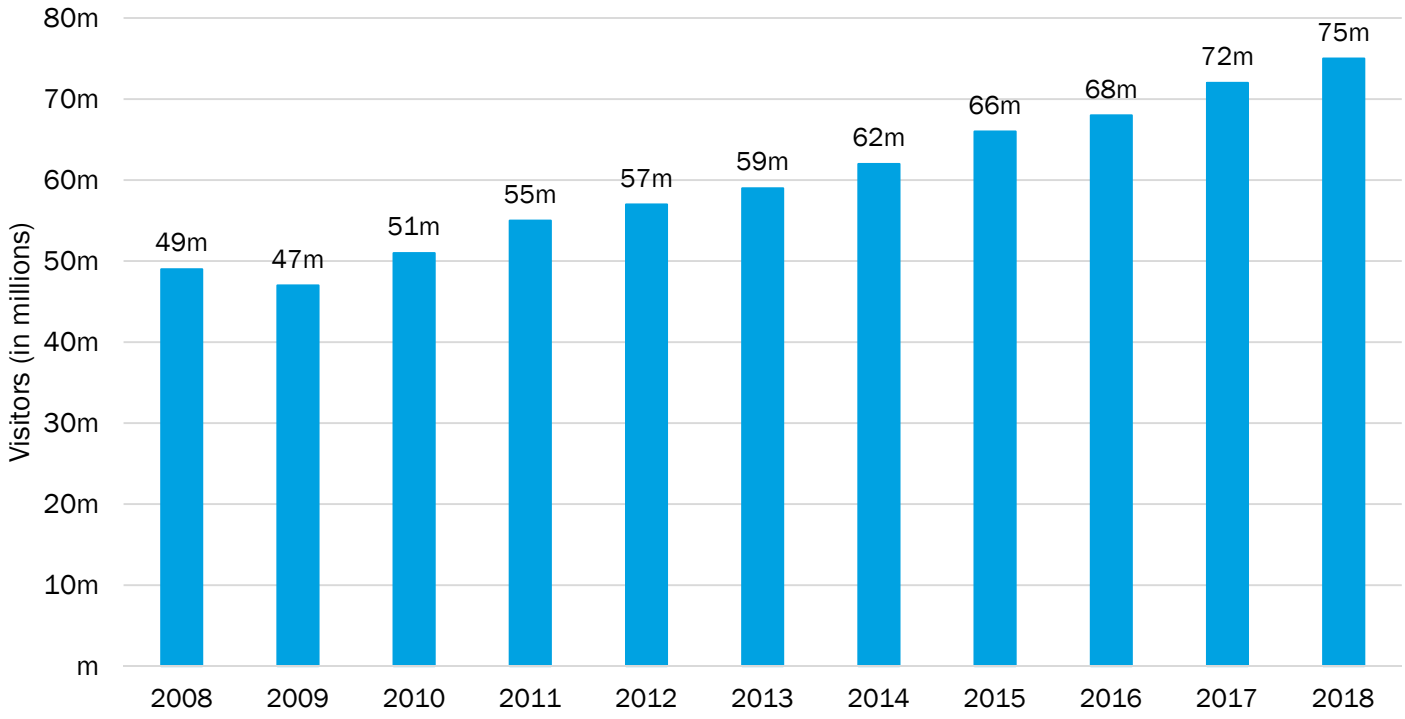

Data Source: U.S. Bureau of Labor Statistics 2018

# Tourism

## Visitation

Yearly visitation to the region is summarized in Figure 4.9. Thanks to its climate, ever-growing theme parks base, and proximity to the coastlines and other natural attractions, the region is a dominant global tourism destination. As a result, travel and tourism have been an integral part of the region's transportation and economic identities. Since 2008, the number of visitors to the Orlando area has risen from 49 million to the milestone of 75 million in 2018, which is an overall increase of 26 million (or 4.3%/yr.). The recent visitor total in the area accounts for almost a 60% share of the total visitors (126.1 million) to all of Florida in 2018[2]. The key to providing efficient transportation infrastructure lies in understanding visitor travel patterns and needs. Areas of concentrated visitor travel are shown in Figure 4.10.

**Figure 4.9 | Visitors to the Orlando Area (in millions)**

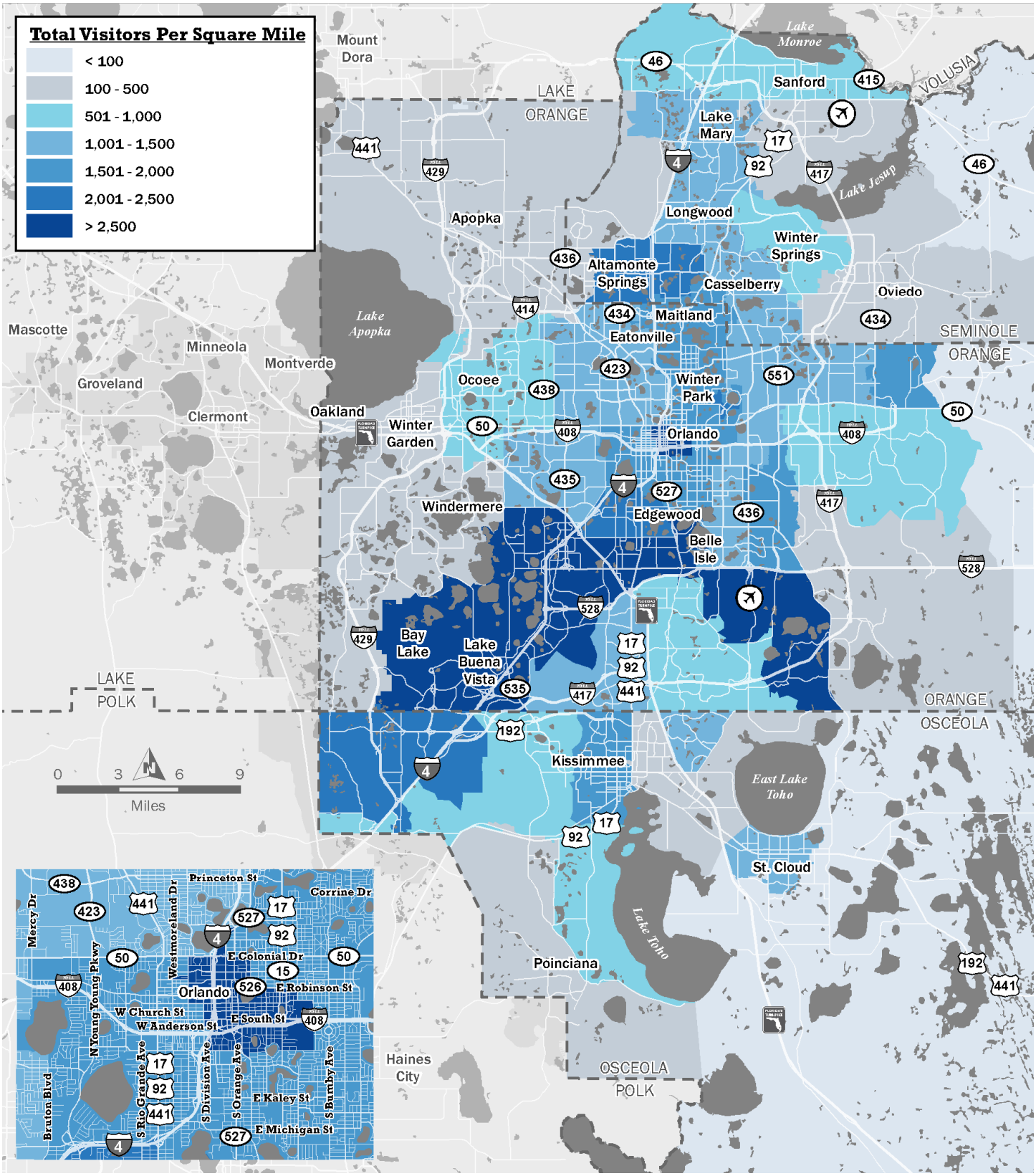



Data Source: Visit Orlando 2019

[2] Data Source: Visit Florida 2019



## Figure 4.10 | Total Visitors Per Square Mile

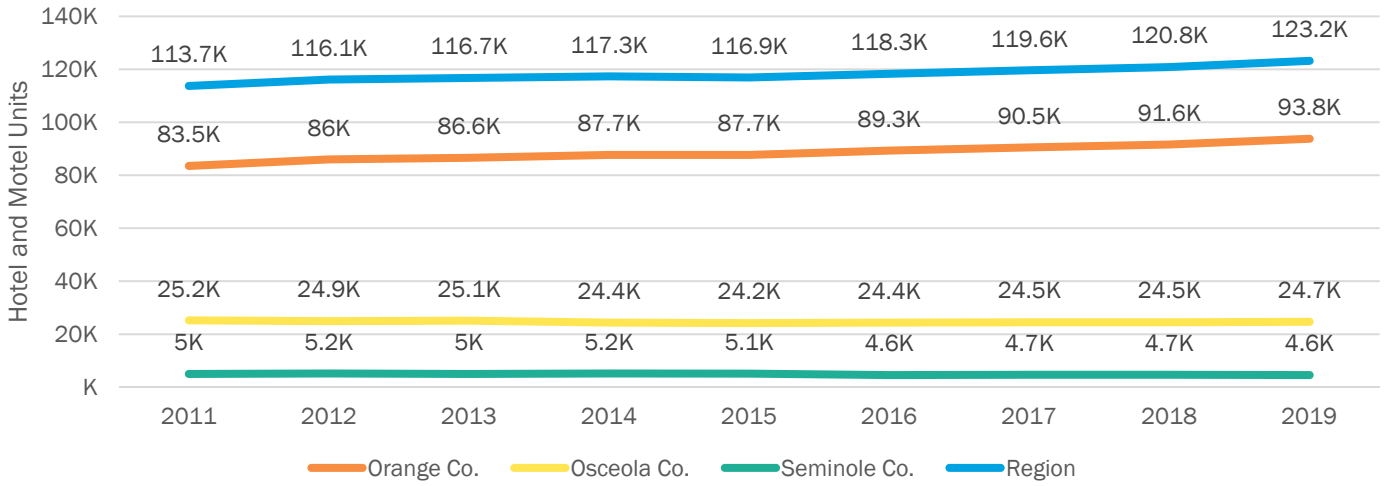



Data Source: FDOT Central Florida Visitor Study 2015

## Hotel and Motel Units

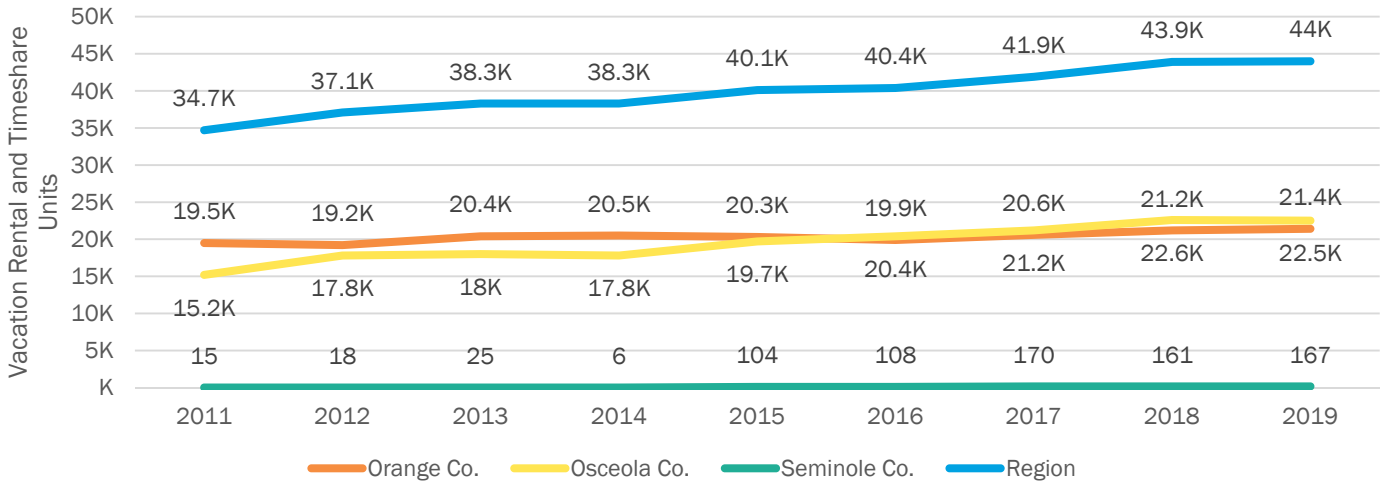
The region's hotel and motel unit inventory has grown from 109,000 in 2009 to almost 121,000 in 2018[3]. This equated to a total of almost 12,000 net units (or 1.1%/yr.) over the last decade. This growth was almost exclusively in Orange County. Osceola County experienced a small increase in hotel units along with a slight decrease in motel units. The densest areas include Downtown Orlando, International Drive Area, and locations at and around the Walt Disney World Resort. Much of the unit growth to support visitation in Osceola County has occurred with vacation rentals. Figure 4.11 and Figure 4.12 show these trends. Areas of unit concentrations create unique transportation needs and opportunities and are shown in Figure 4.13.

### Figure 4.11 | Hotel and Motel Units in the Region




Data Source: FL Department of Business and Professional Regulation 2019

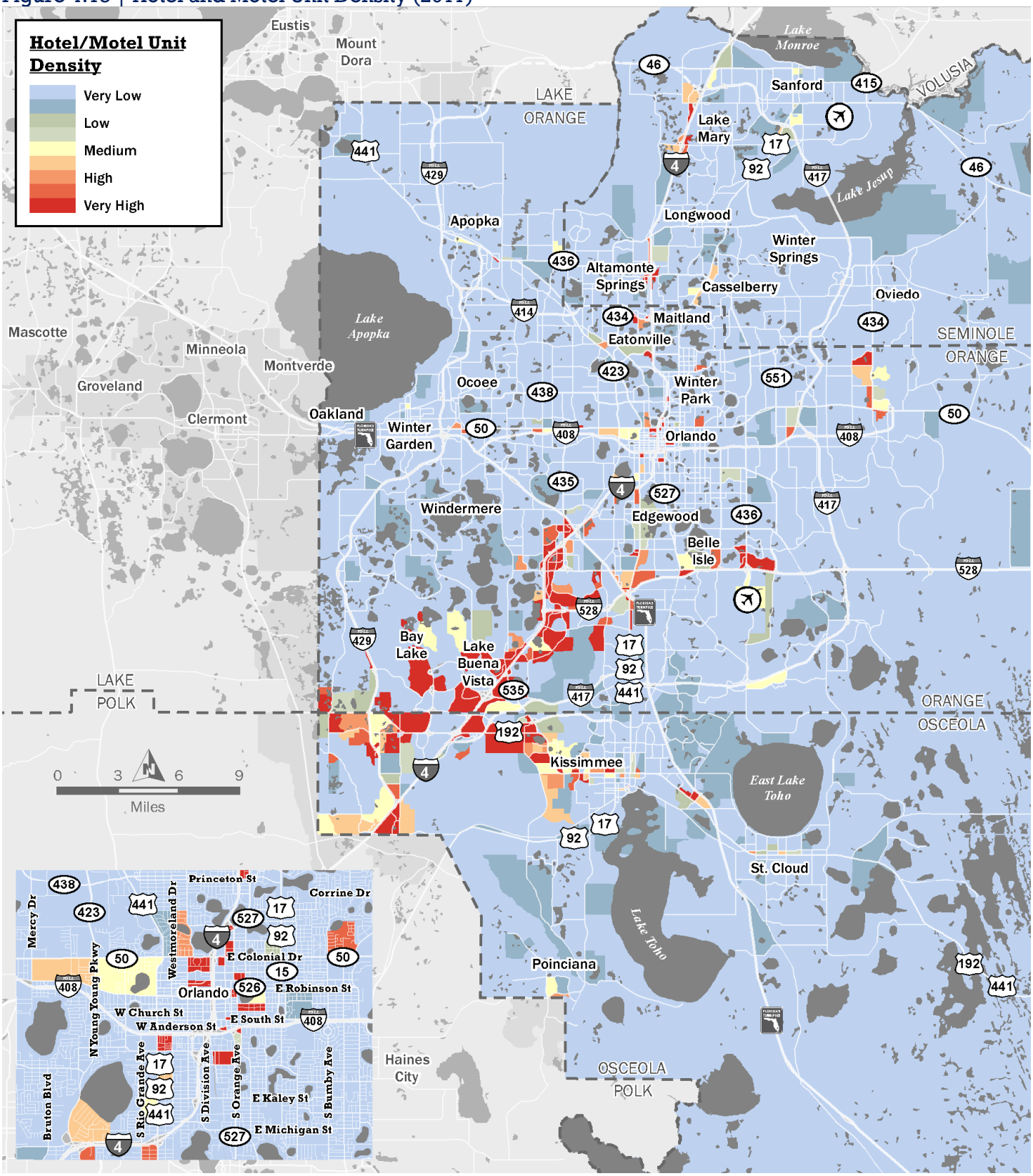
### Figure 4.12 | Vacation Rentals and Timeshare Units in the Region




Data Source: FL Department of Business and Professional Regulation 2019

[3] Data Source: Florida Department of Business and Professional Regulation 2019.

## Figure 4.13 | Hotel and Motel Unit Density (2017)




Data Source: FDOT Central Florida Regional Planning Model 2017

# Transportation Network Trends

The region has a dense network of thoroughfares, highlighted by an extensive network of limited access roadways consisting of the region's backbone, Interstate 4 (I-4) along with several toll roads that pass through and connect the area, including:

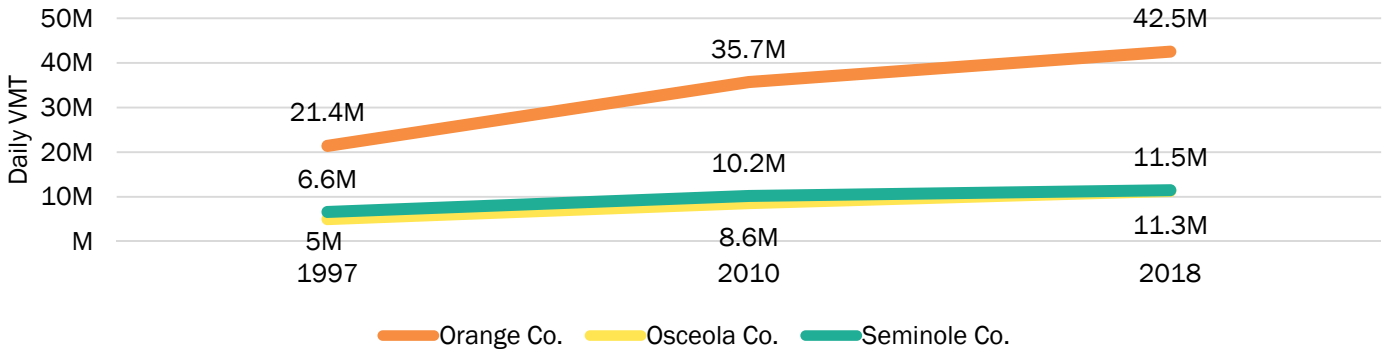
- SR 417 (Central Florida GreeneWay, Seminole County Expressway) generally travels around the eastern side of Orlando.
- SR 429 (Daniel Webster Western Beltway, Western Expressway) provides an alternate north-south route to I-4 in western Orange County and Osceola County.
- SR 414 (Maitland Boulevard, John Land Apopka Expressway) is an east-west facility connecting Maitland to the Apopka area in northwestern Orange County.
- SR 528 (Martin B. Andersen Beachline Expressway) is an east-west facility connecting I-4 to the coast in Brevard County.
- SR 91 (Florida's Turnpike, Ronald Reagan Turnpike) generally travels in a north-south direction between I-75 and Miami.
- SR 408 (Spressard L. Holland East-West Expressway) is an east-west toll facility that connects Florida's Turnpike to Challenger Parkway in Orange County.

As reported in FDOT's Public Road Mileage and Miles Traveled 2018 Report, Florida has a total of 123,099 centerline miles. In the three-county MetroPlan Orlando area, there are 7,928 public road centerline miles or 6.4% of the state's total miles.

## Vehicle Miles Traveled

Daily Vehicles Miles Traveled (DVMT) is a metric used to indicate travel demand and behavior. DVMT is a product of a road's centerline miles and its Annual Average Daily Traffic (AADT)[4]. This calculation considers the fluidity of centerline mileage with vehicular use. Since 1997, FDOT has reported public road mileage and DVMT on an annual basis. DVMT continues to grow steadily and has approximately doubled throughout the region since 1997. It is important to note that DVMT in Osceola County is on track to surpass Seminole County as indicated in Figure 4.14. DVMT per capita is reported in Figure 4.15.

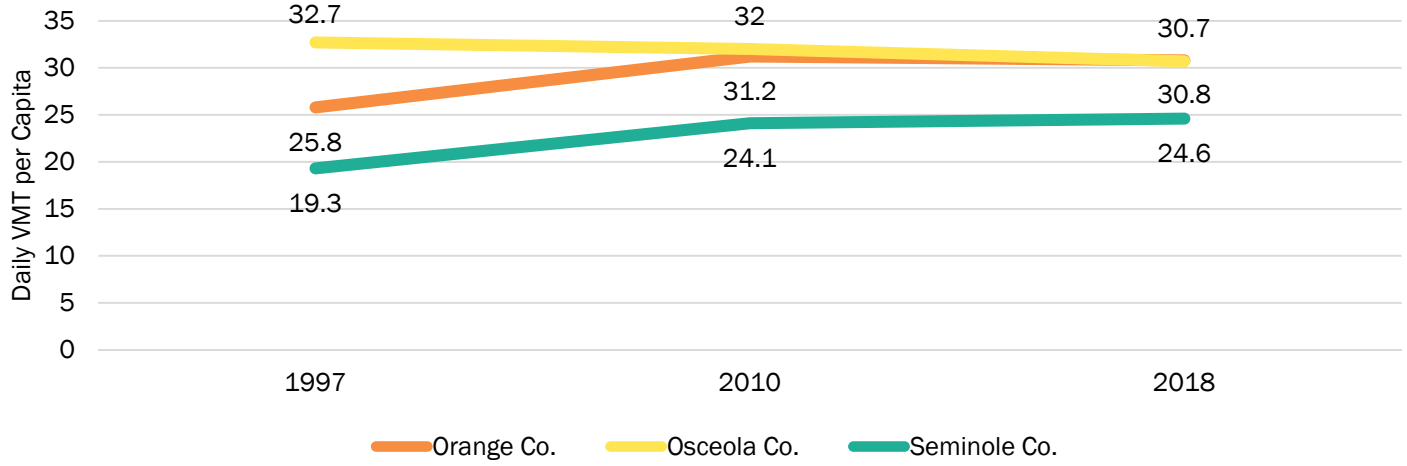
**Figure 4.14 | Region Daily Vehicle Miles Traveled**




Data Source: FDOT 2019

[4] AADT identifies the average volume of traffic for a one day (24 hour period) during a data reporting year.

## Figure 4.15 | Region Daily Vehicle Miles Traveled per Capita

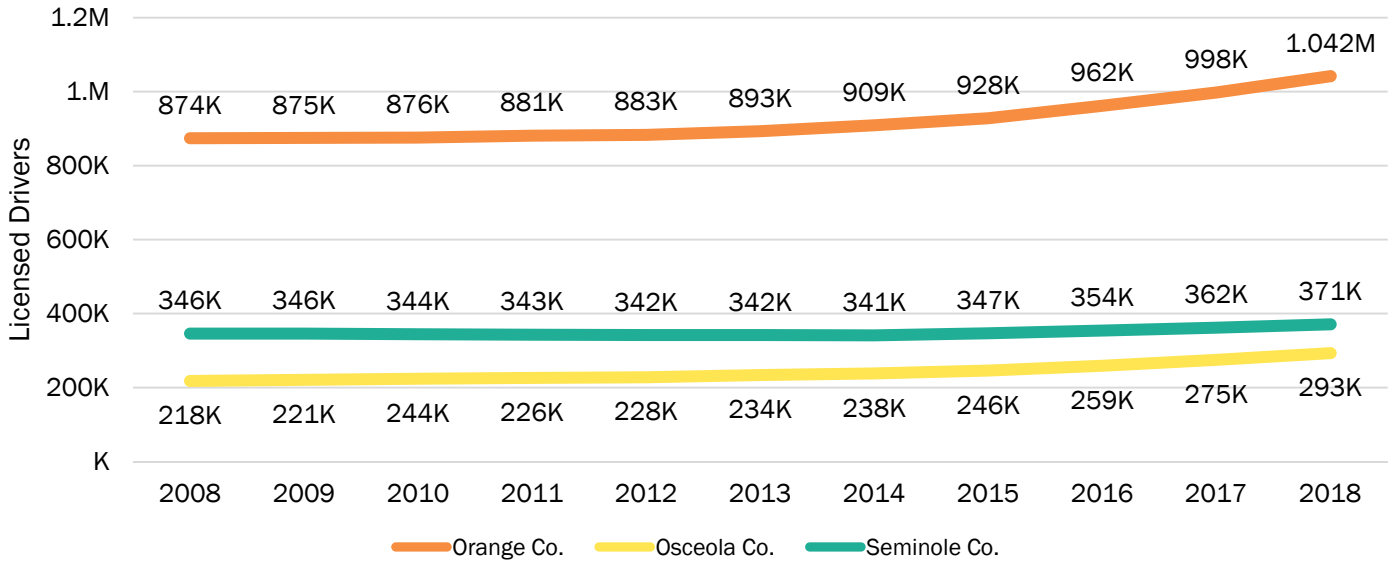



Data Source: FDOT 2019

### Licensed Drivers

The number of licensed drivers in the region increased by 268,000 (or 1.7%/yr.) between 2008 and 2018, reaching 1.7 million in the most recent year[5]. This growth pace was almost twice as strong as the corresponding state average of 0.9%/yr. The number of drivers licenses in Osceola County grew the fastest in the area (3.0%/yr.), while Seminole County's' growth rate was slowest (0.7%/yr.), and Orange County's growth rate (1.8%/yr.) was closest to the region's average, as shown in Figure 4.16. The growth in driving age population has been and is expected to remain strong as much of the growth in Florida is occurring through migration rather than birth rate. This will be analyzed and considered more with future scenarios analysis.

## Figure 4.16 | Region Licensed Drivers




Data Source: Florida Highway Safety and Motor Vehicles 2019

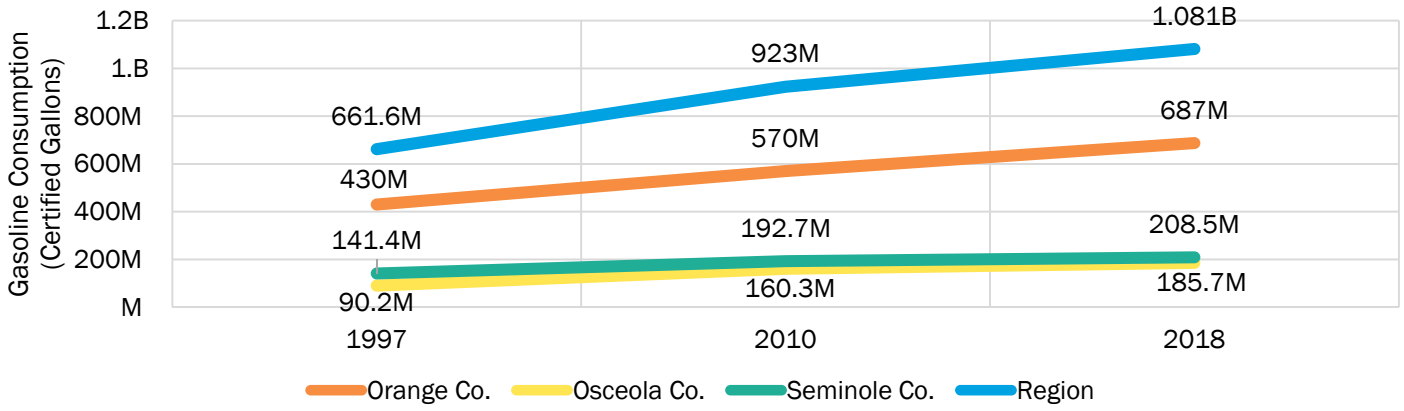
[5] Data Source: Florida Highway Safety and Motor Vehicles, 2019



## Gasoline Consumption


Fuel consumption is broken down by type, with gasoline representing largely passenger vehicles and the related travel volumes, and diesel representing commercial truck and bus movement in the region. Gasoline consumption in the region rose by 420 million gallons per year (2.4%/yr.) between 1997 and 2018, reaching almost 1.1 billion gallons in 2018[6].As shown in Figure 4.17, Osceola County's annual growth rate (3.5%) in gasoline consumption outpaced the other two counties, Orange (2.3%/yr.), and Seminole (1.9%/yr.).

**Figure 4.17 | Historic Gasoline Consumption (Certified Gallons)**

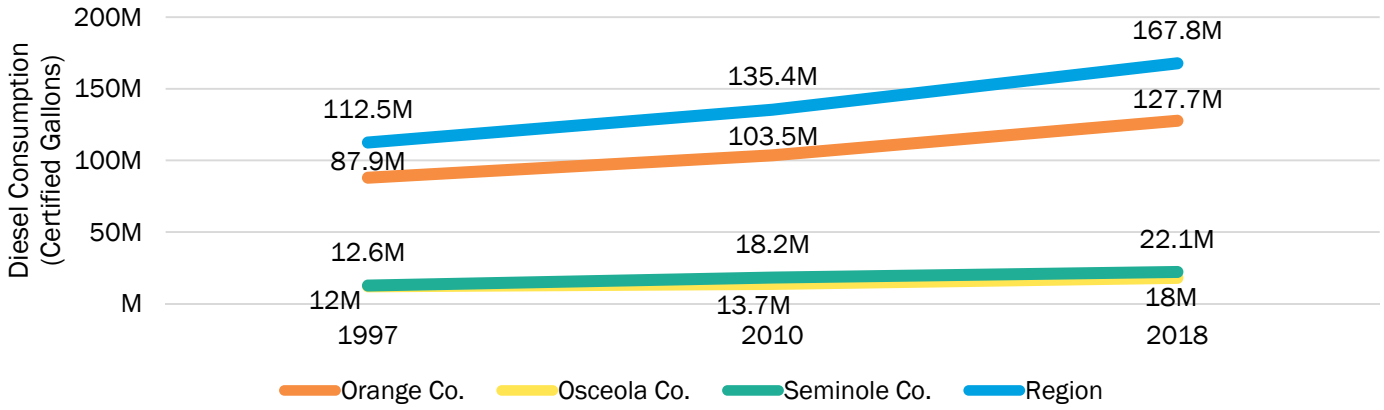



Data Source: Florida Department of Revenue 2019

## Diesel Consumption

Diesel consumption in the region increased by 55 million gallons per year (1.9%/yr.) between 1997 and 2018 reaching almost 168 million gallons in 2018. Diesel peaked in 2006 at 177 million gallons[7]. Seminole County's annual growth rate (2.7%) of diesel gasoline consumption was faster than in the other two counties, Osceola (2%/yr.), and Orange (1.8%/yr.) (See Figure 4.18).

**Figure 4.18 | Historic Diesel Consumption (Certified Gallons)**




Data Source: Florida Department of Revenue 2019

[6] Data Source: Florida Department of Revenue 2019
[7] Data Source: Florida Department of Revenue 2019

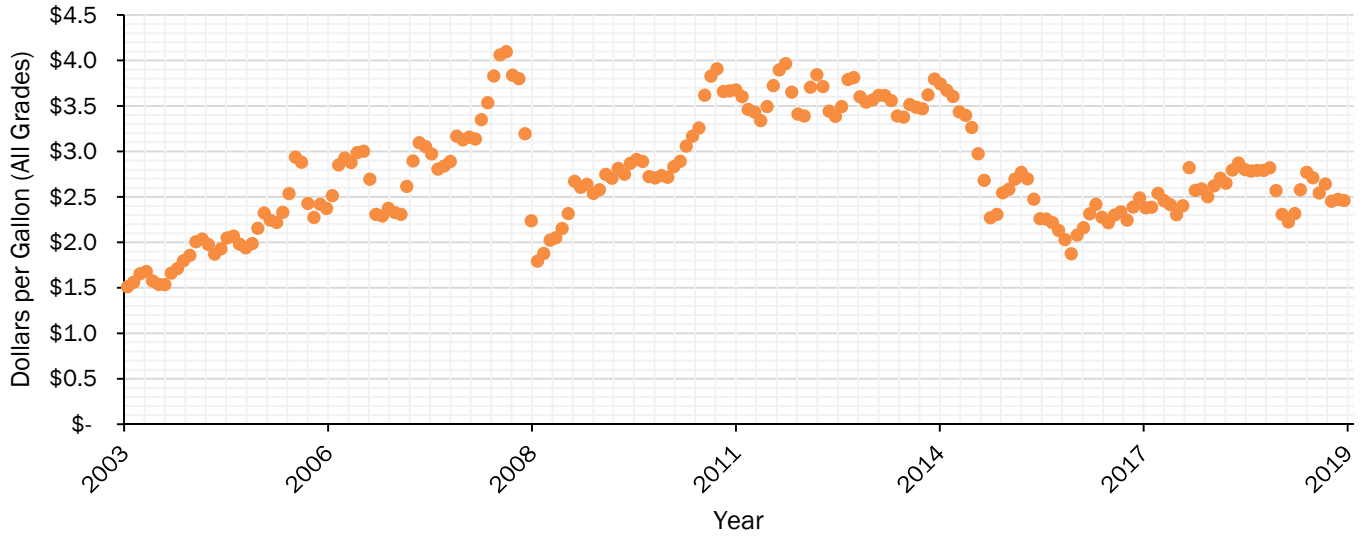


## Fuel Prices

Both gasoline and diesel retail prices peaked around July 2008 (at over $4/gallon), and have come down substantially since the spring of 2014 to under $3/gallon presently – see Figure 4.19 for gasoline and

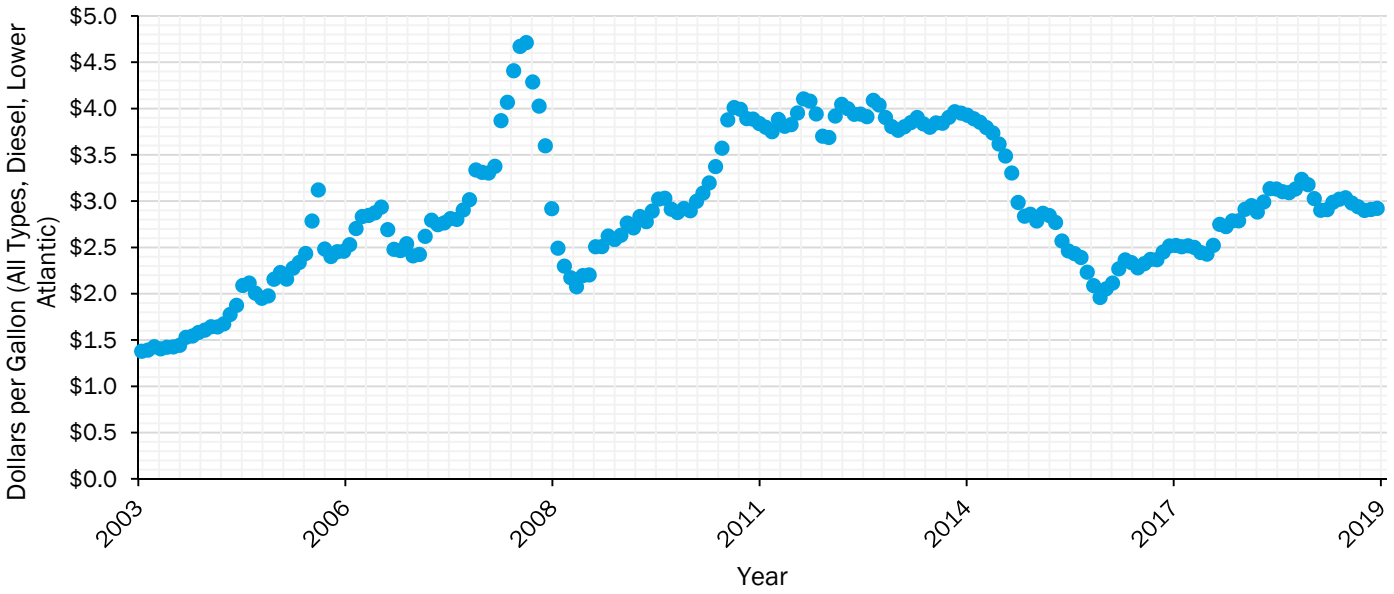
Figure 4.20 for diesel fuel price trends.

### Figure 4.19 | Historic Gasoline Prices




Data Source: Energy Information Administration 2019

### Figure 4.20 | Historic Diesel Prices



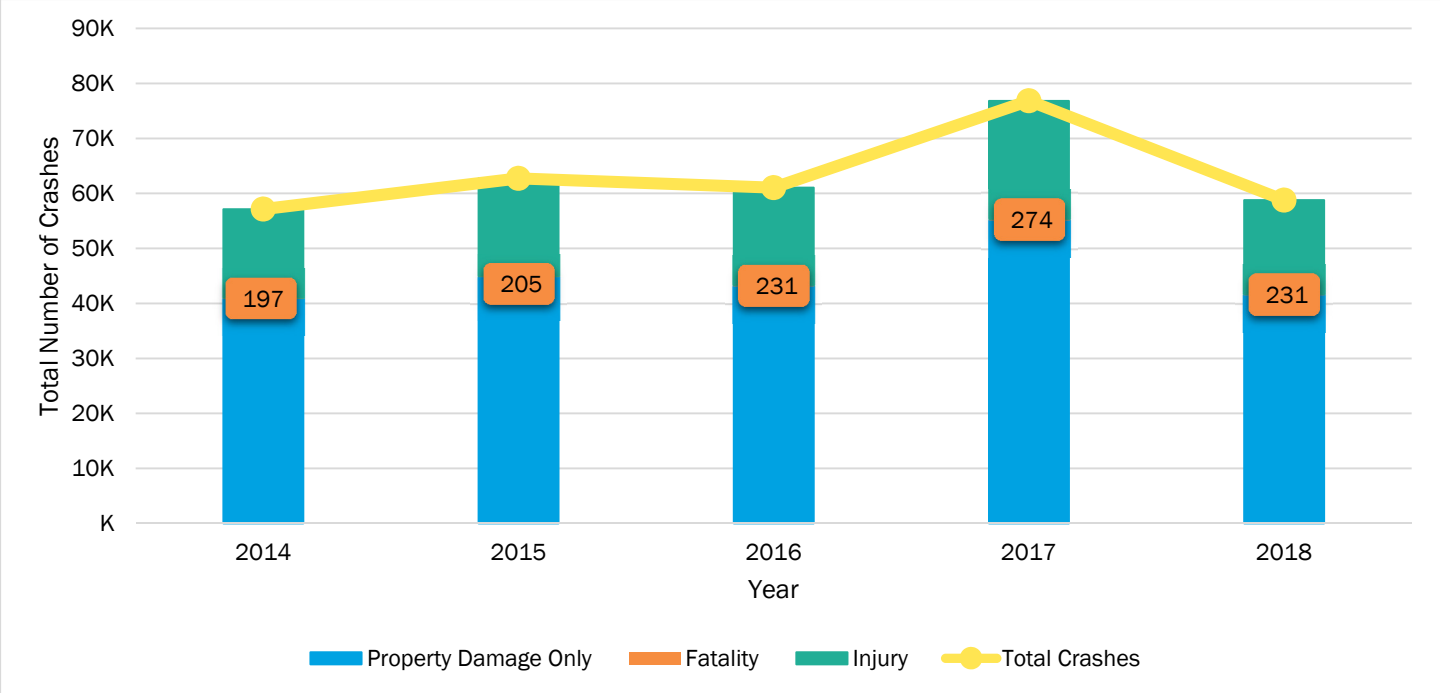

Data Source: Energy Information Administration 2019



## Safety Trends

As the region has continued to grow in terms of population (Figure 4.3), Vehicle Miles Traveled (Figure 4.14), and visitors (Figure 4.9), vehicle crashes and fatalities have trended up through 2017. In 2018, there was a decrease in overall crashes and fatalities from 2017. The trend in vehicle safety is shown in Figure 4.21. Urbanized areas in the region exhibit the highest number of crashes as shown in Figure 4.22; a visual representation of the region's vehicle crash "hot spots" based on crashes from 2014 – 2018.

**Figure 4.21 | Safety Trend Types**




Data Source: Signal 4 Analytics 2014-2018

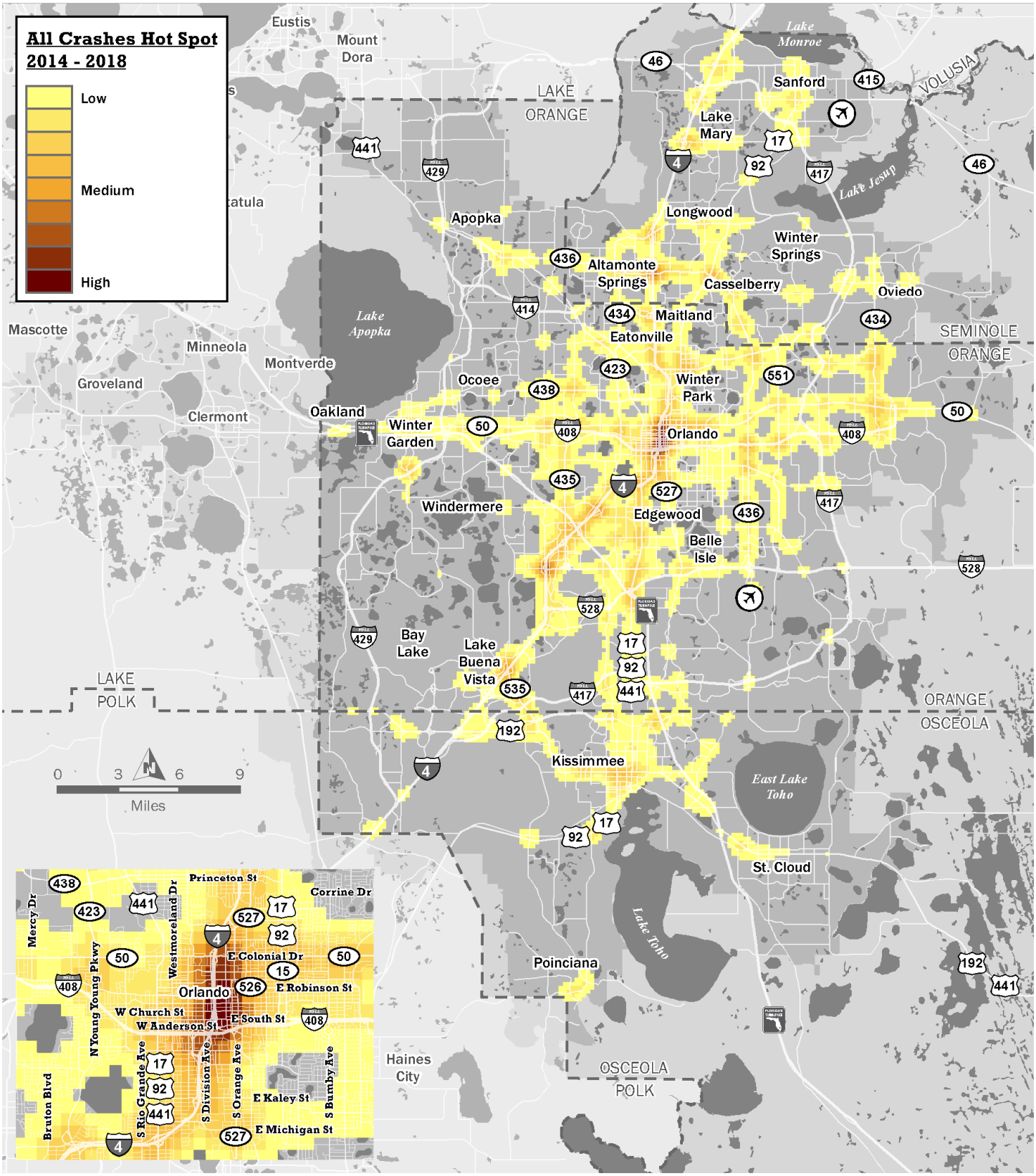
## Transit Trends

In February 2019, FDOT published a statewide document to address the national and statewide trend in declining ridership. This report, Understanding Ridership Trends in Transit, finds a peak in ridership during 2014, which has declined by 13% when compared to the most recent data available. This results in a corresponding drop in service productivity when combined with an increase in vehicle revenue miles of service.

Overall, it was noted that service utilization has steadily been declining since 2002. This was measured by boardings per revenue mile and found a lower service utilization in 2017 than any previous year's reference data. The FDOT report showed Average Fixed Route Operating Speed as relatively stable since 2002, with a slight downward trend through the economic recovery from the Great Recession.



## Figure 4.22 | All Crashes Hot Spots 2014 – 2018




Data Source: Signal 4 Analytics 2014-2018

# Area Profile

## Community Composition

### Land Use

Development patterns provide insight into the strength of the construction sector, the pace of residential and commercial development, and show where growth is occurring. The region is a mixture of intense commercial development, concentrated residential use, agricultural land use, and undevelopable land due to different environmental factors. Wetlands and former industrial land uses within the region limit some of the availability of land for development. These provide extensive areas for recreational use.

#### Generalized Land Use Characteristics

The three MetroPlan Orlando counties comprise a total of 2,854 square miles, with 2,538 land area square miles and 316 water area square miles. Generally, development areas are located surrounding the I-4, US 17/92 and Florida's Turnpike transportation corridors; primarily where municipal services or large regional entertainment areas are located. Dense retail development occurs surrounding the Disney resort properties in Orange County and neighboring Osceola County. Employees supporting high visitor concentration areas in Central Florida predominately live within close proximity to their jobs. However, as land values increase around these tourist areas more affordable residential communities, industry, and retail businesses may expand into undeveloped areas in surrounding counties. This expansion could encourage continued urban sprawl if unchecked by smart growth policies and zoning.

### Regional Activity Centers

Some of the key regional activity centers in the region are displayed in Figure 4.23 and serve as hubs of employment and leisure. The locations shown in Figure 4.23 represent the activity areas, and are not limited to the one landmark called out within the figure. These top activity centers were identified through an analysis of 2015 AirSage Data.

Port Canaveral and Cape Canaveral are also important transportation hubs and critical regional destinations located an hour away in Brevard County on Florida's east coast, just outside the immediate three-county area of MetroPlan Orlando.

**Regional Snapshot:**
**By the Numbers**

**2.2** million population

**75** million annual visitors

**3.2%** unemployment rate

**22%** population under 18

**13%** population 65+

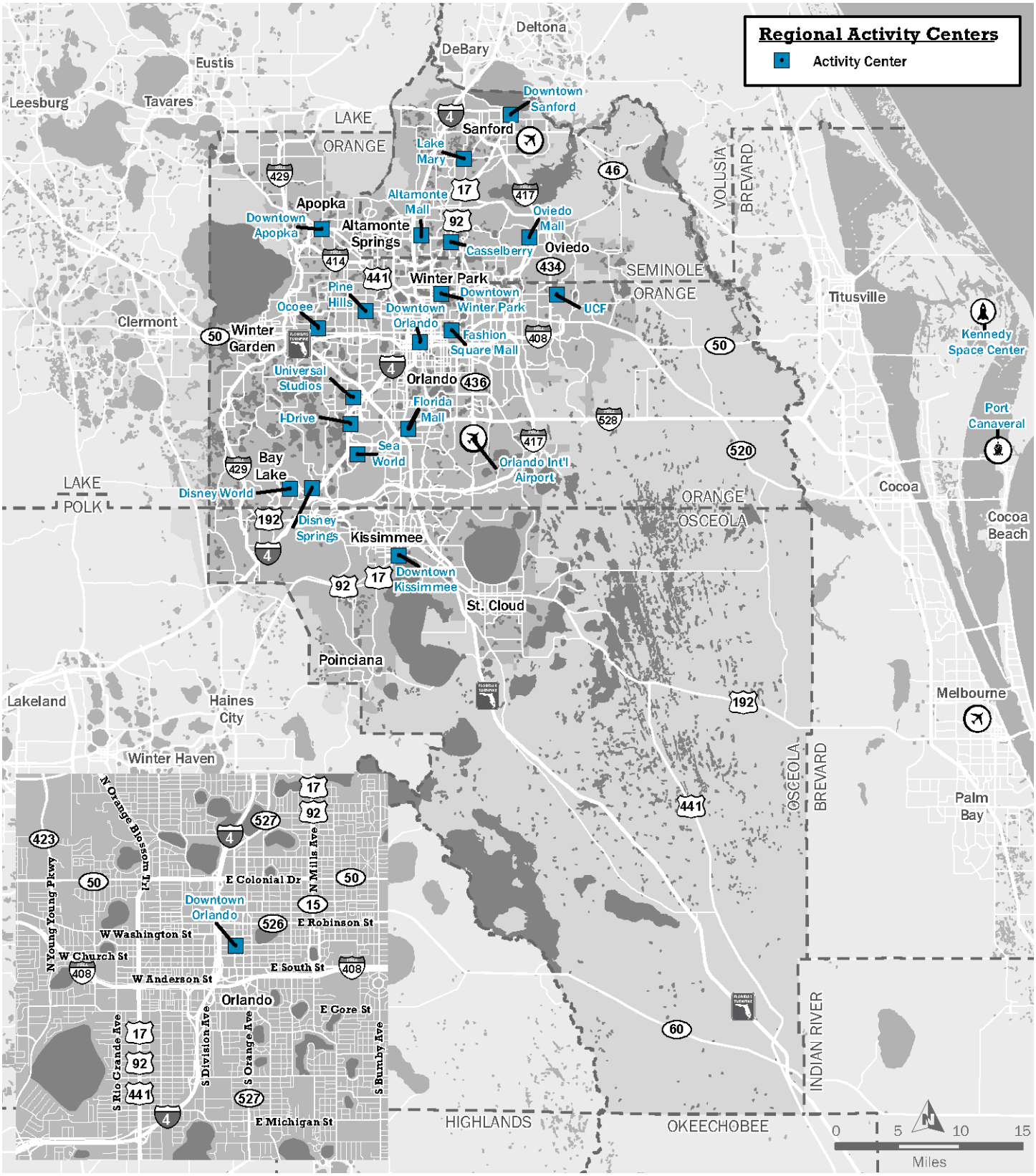
**3.1** average household size

**$53,000** median household income

**28** minutes average commute time



## Figure 4.23 | Regional Activity Centers




Data Source: AirSage 2015

## Parks, Conservation Areas, and Flood Zones

Figure 4.24 shows the county and city parks, managed lands, mitigation banks, and state parks within the urbanized region. City and county parks provide recreational activity for residents and visitors alike. Managed lands are typically environmentally sensitive lands that are generally conservation managed by local, state, or private agencies, such as the South Florida Water Management District or one of the counties. Florida state parks encompass land under the authority of the Florida Department of Environmental Protection, and provide conservation and tourism areas. Tourist attractions can range from trails, camping, freshwater springs, and other recreation activities. Mitigation banking is a practice in which an environmental enhancement and preservation project is conducted by a public agency or private entity ("banker") to provide mitigation for unavoidable wetland impacts within a defined mitigation service area.

Some of the larger preservation areas include the 6,220-acre Lake Jessup Conservation Area in Seminole County, the 28,000-acre Tosohatchee State Reserve, the 14,000-acre Rock Springs Run State Reserve in Orange County, and the 63,000-acre Three Lakes Wildlife Management Area in Osceola County. These designated lands provide protection for area river basins, habitat preservation and recreational opportunities in the region.

### FEMA Flood Zones

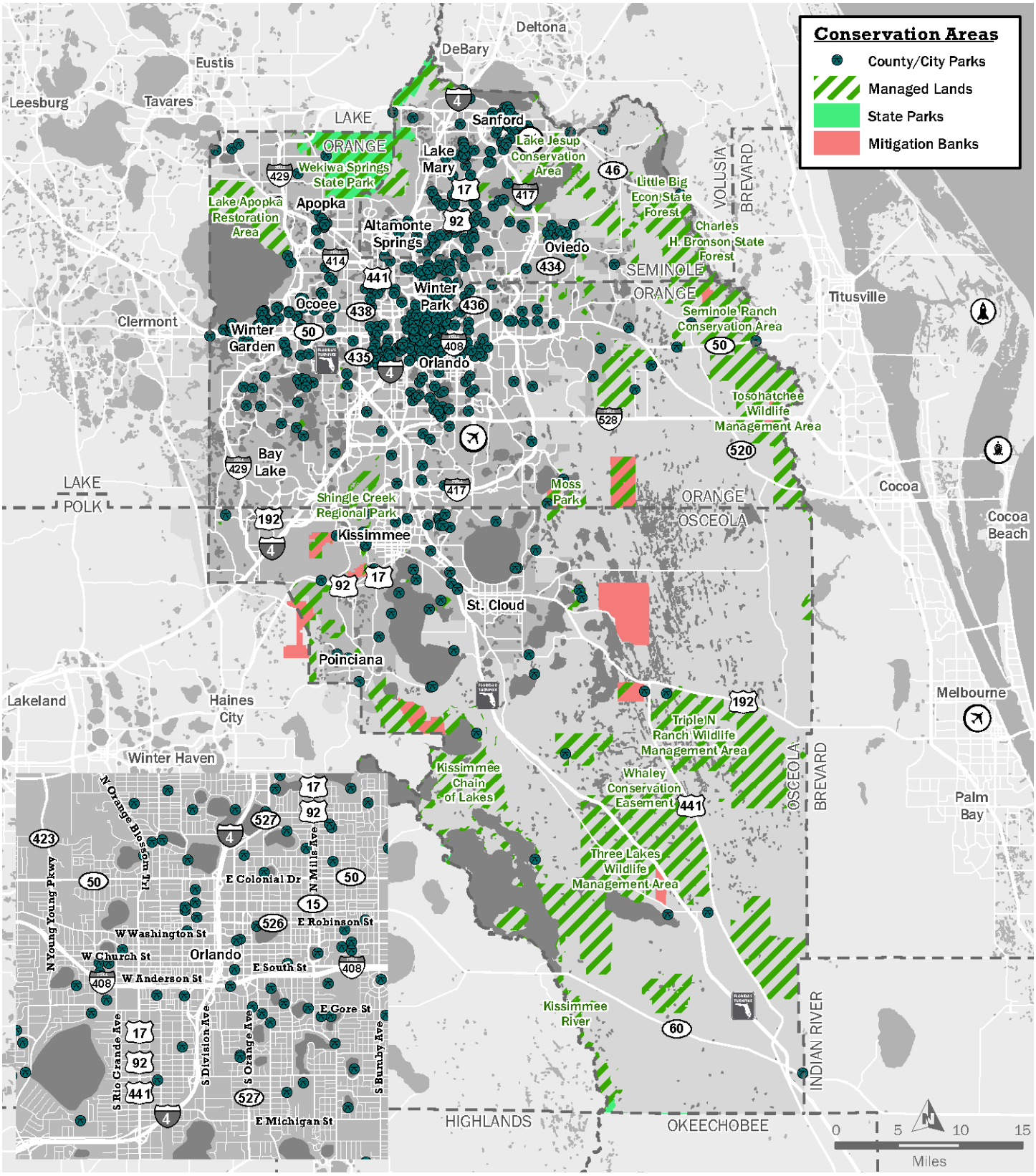
Federal Emergency Management Agency (FEMA) Flood Zones, also called FEMA Floodplains, are geographic areas that are defined by varying levels of flood risk. Figure 4.25 depicts a variety of Flood Zone levels in the region.

- Zone A: Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
- Zone AE: The base floodplain where base flood elevations are provided.
- Zone AH: Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
- Zone VE: Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
- Zone X: Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1-square mile.

Flooded areas can negatively impact travel by personal, commercial and transit vehicles.

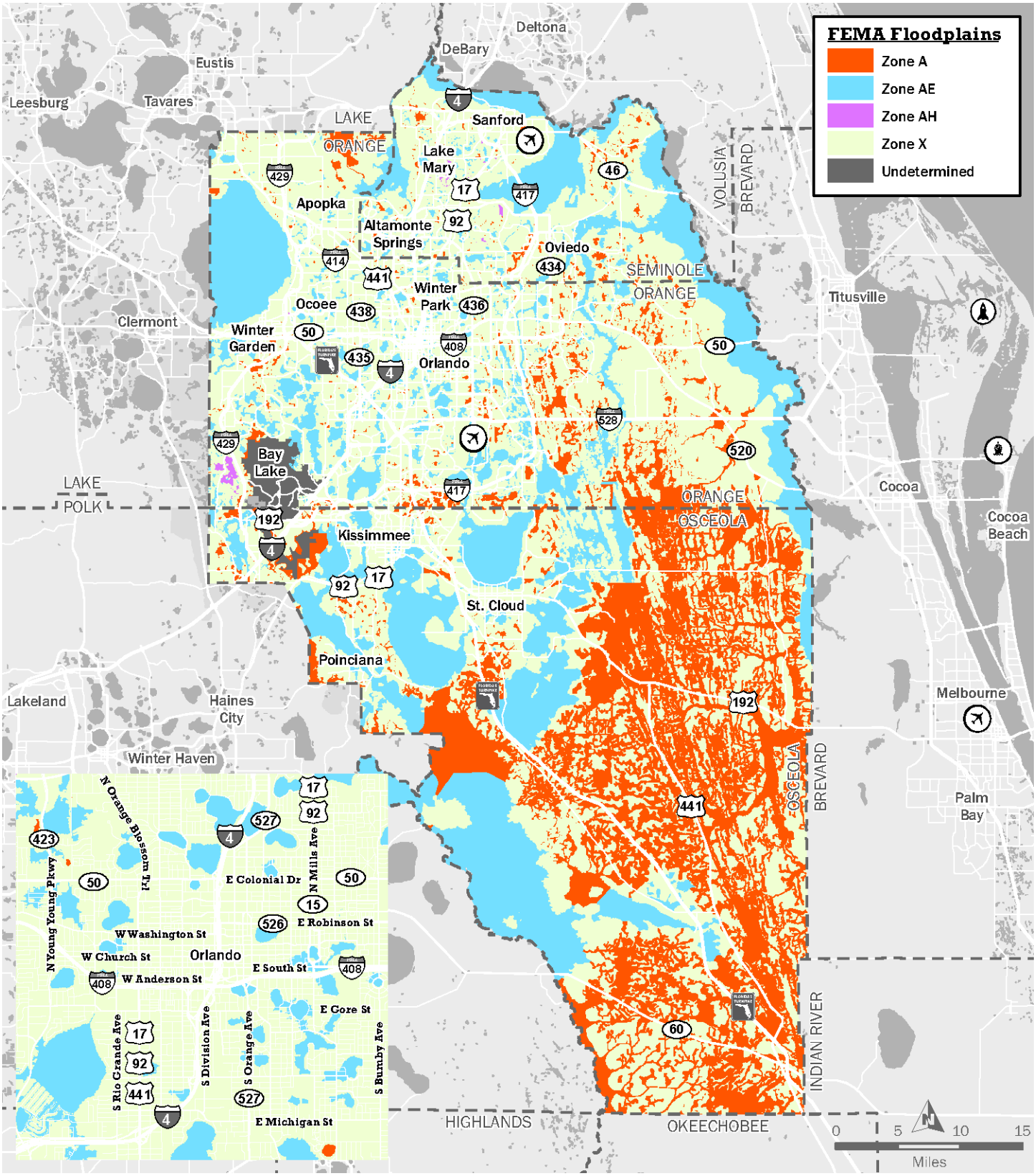


## Figure 4.24 | Conservation Areas




Data Source: Florida Natural Areas Inventory 2019

## Figure 4.25 | FEMA Floodplains




Data Source: FEMA 2018

# Demographics

## Population Diversity and Environmental Justice

Understanding the background and culture within the region can aid in the community outreach portion of the planning process. Figure 4.26 shows the distribution of ethnicities and population density throughout the region to aid in this effort. The concept of environmental justice is the application of this information to ensure that transportation decisions do not cause disproportionately high and adverse effects on minority and low-income populations. The key environmental justice focus areas throughout the region are shown in Figure 4.27. Several factors are used to identify these focus areas, including zero car households, limited English proficiency, population below poverty, and population below 18 and over 65. A "score" of 1 was given to each area if one of these factors was above the regional average, resulting in total scores ranging from zero to seven (7). Areas with scores ranging from four to seven are established as environmental justice focus areas.

## Tapestry

Developed by ESRI, Tapestry Segmentation classifies neighborhoods across the country into 67 unique segments throughout 14 different groups called LifeMode Summary Groups. LifeMode Summary Groups reflect different lifestyles and stages of life. Tapestry is used to describe neighborhoods in easy-to-visualize terms to better understand and meet the needs of the population living there. Figure 4.28 shows the Tapestry LifeMode Summary Groups in the region. Some of the largest LifeMode Summary Groups in the region are *Family Landscapes* and *Ethnic Enclaves*. These LifeMode Summary Groups are explained in further detail in Table 4.1. Information for the remaining LifeMode groups can be found at the ESRI Tapestry Segmentation website.

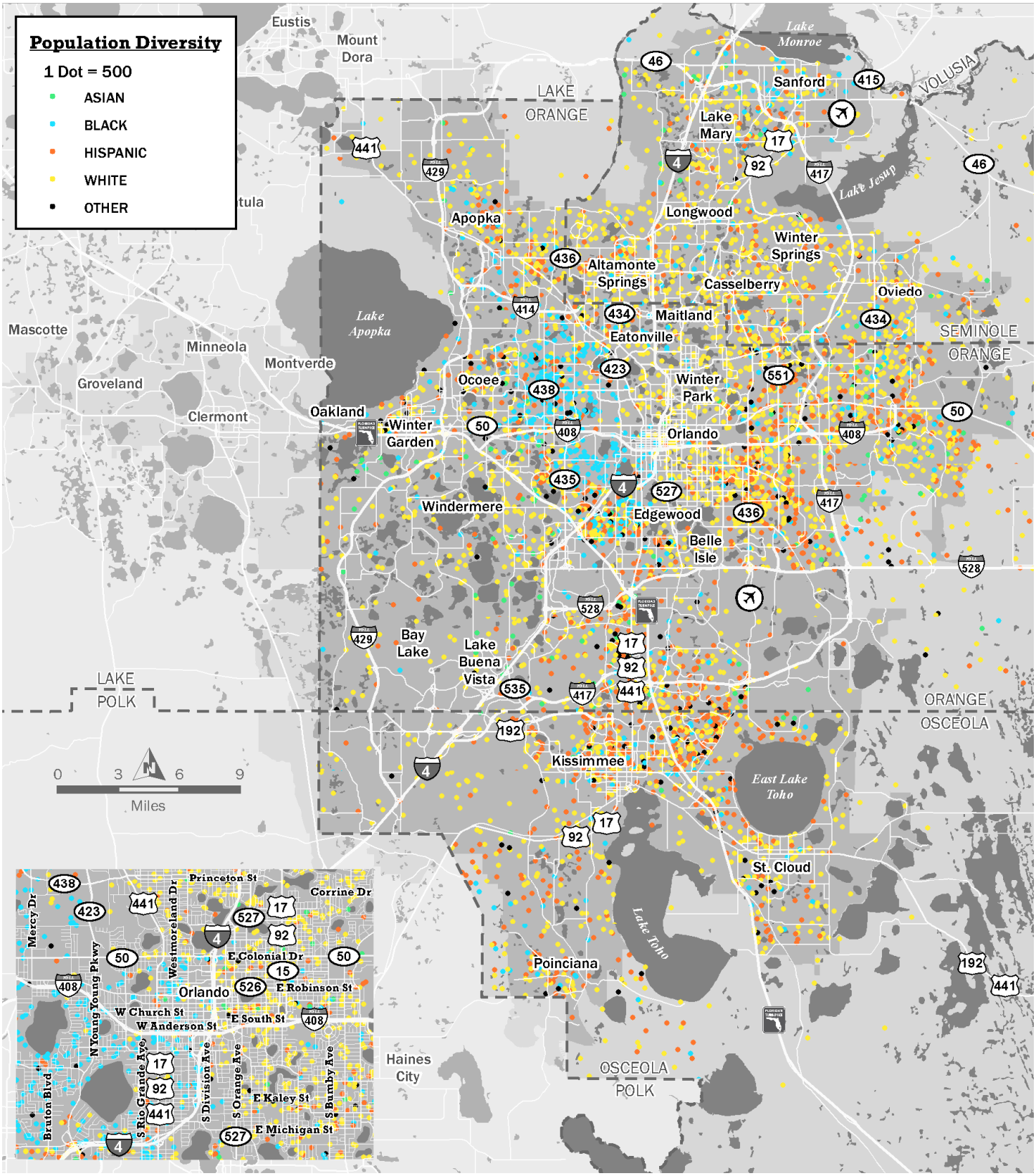
**Table 4.1 | Prevalent Region Tapestry Segment Lifemode Groups**

| LifeMode Group | Description |
|---|---|
| L4: Family Landscapes  | • Successful young families in their first homes<br>• Non-diverse, prosperous married-couple families, residing in suburban or semirural areas with a low vacancy rate (second lowest)<br>• Homeowners (79%) with mortgages (second highest %), living in newer single-family homes, with median home value slightly higher than the U.S.<br>• Two workers in the family contributing to the second highest labor force participation rate, as well as low unemployment<br>• Do-it-yourselfers, who work on home improvement projects, as well as their lawns and gardens<br>• Sports enthusiasts, typically owning newer sedans or SUVs, dogs, and savings accounts/plans, comfortable with the latest technology |
| L7: Ethnic Enclaves  | • Established diversity—young, Hispanic homeowners with families<br>• Multilingual and multigenerational households feature children that represent second-, third- or fourth-generation Hispanic families<br>• Neighborhoods feature single-family, owner-occupied homes built at city's edge, primarily built after 1980<br>• Hard-working and optimistic, most residents aged 25 years or older have a high school diploma or some college education<br>• Shopping and leisure also focus on their children—baby and children's products from shoes to toys and games and trips to theme parks, water parks or the zoo |

Data Source: ESRI 2019

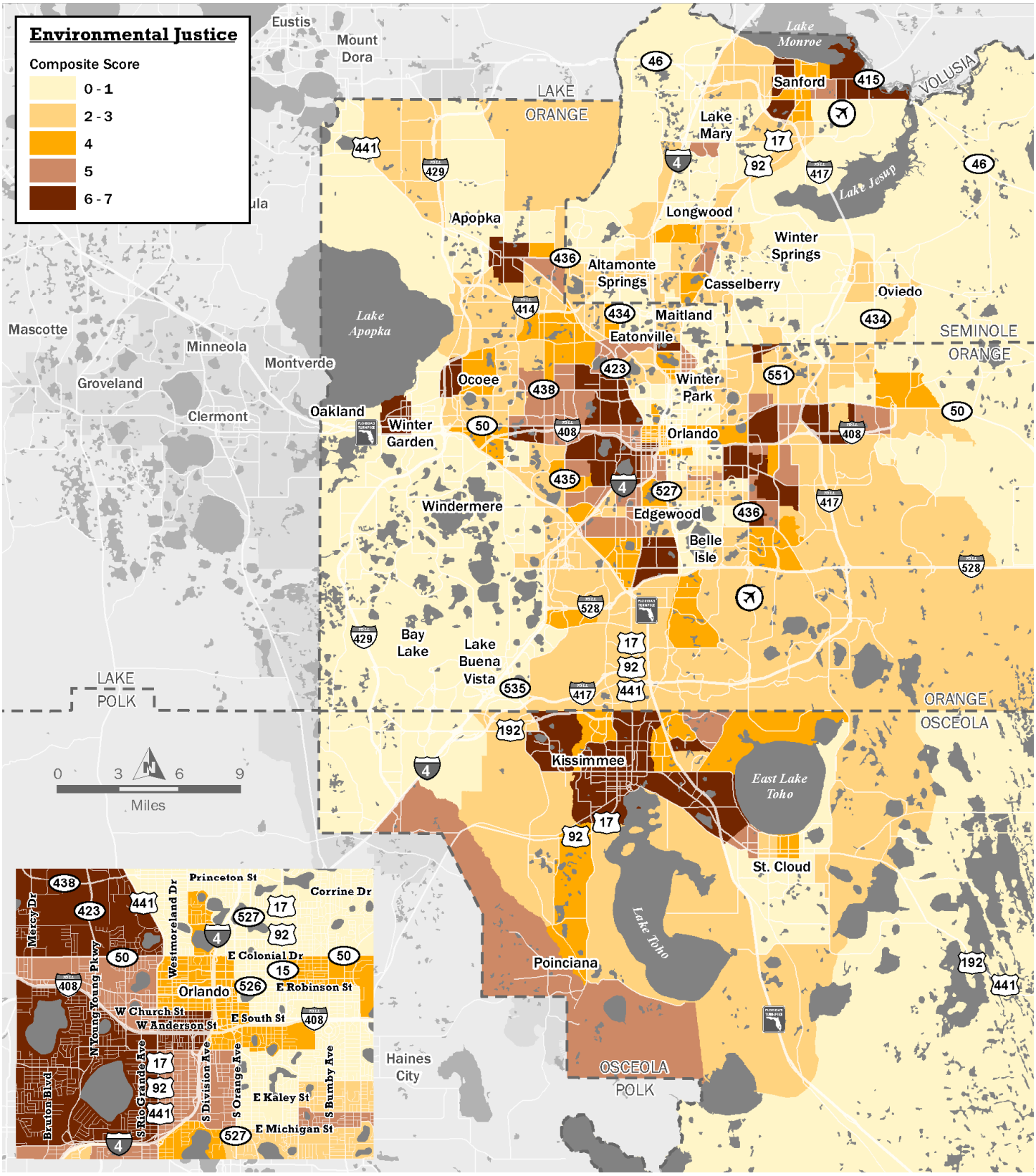


## Figure 4.26 | Population Diversity



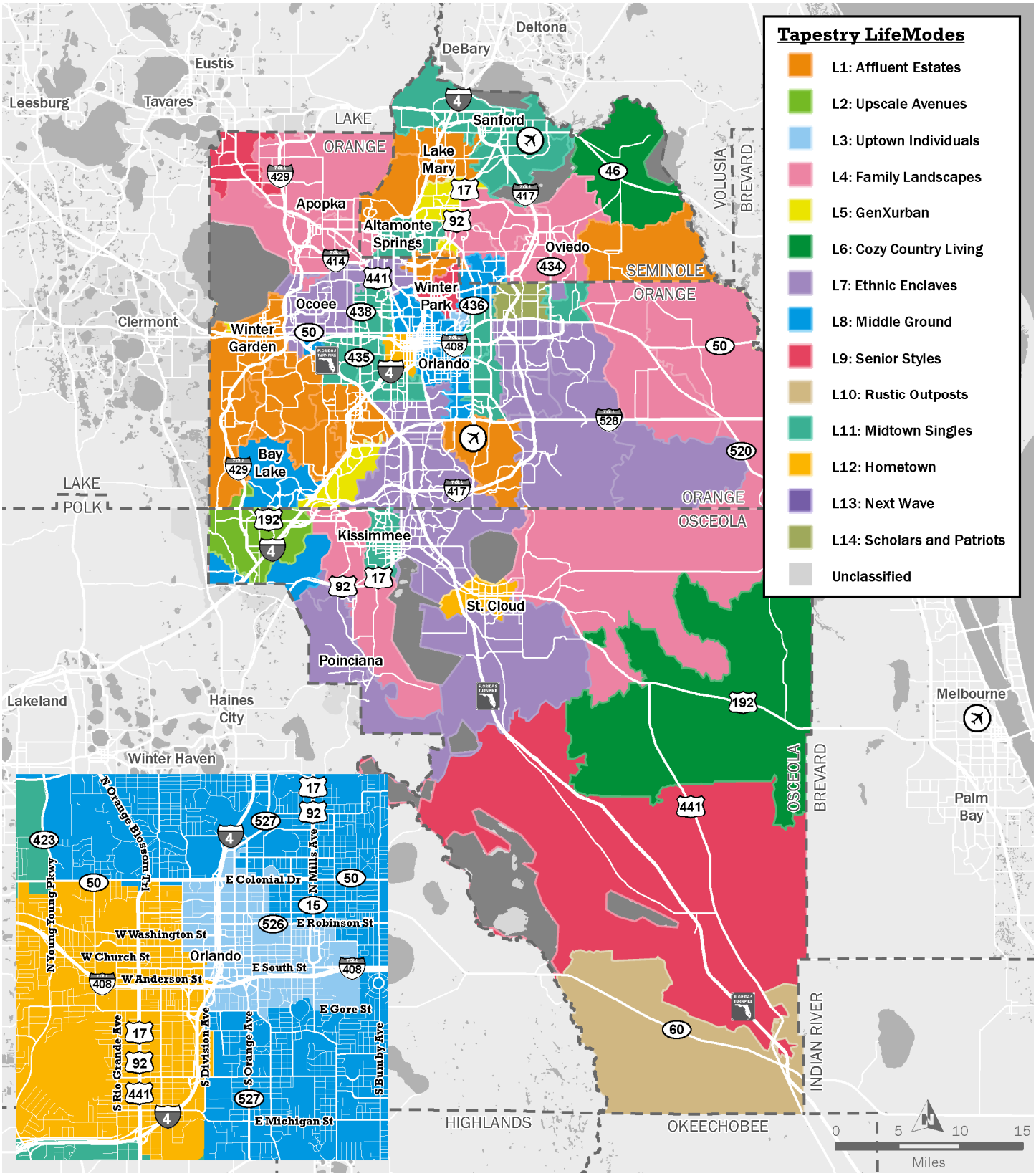

Data Source: U.S. Census Bureau, American Community Survey 2017

## Figure 4.27 | Environmental Justice Focus Areas




Data Source: U.S. Census Bureau, American Community Survey 2017

## Figure 4.28 | Tapestry LifeModes




Date Source: ESRI 2019

# Infrastructure Assets

Transportation infrastructure is vital to regional and statewide mobility. Business and consumer goods, visitors, and local residents are transported to and from the region by roadways, airports, seaports and rail. Maintaining and expanding the existing transportation system is essential to serving a variety of users now and in the future.

## Roadways

### Number of Lanes

Roadway number of lanes are important for a variety of infrastructure related needs. For example, the number of lanes on a road are considered when categorizing roadways by their functional classification or identifying causes of traffic congestion as well as mitigation strategies to ease congestion. Figure 4.29 shows the number of lanes in the region's primary roadway facilities.

### Functional Classification

Functional classification categorizes streets by their ability to move traffic and provide access to adjacent properties. Values such as traffic volume and number of lanes are considered when classifying streets. Arterials are generally highway-type roadways that allow for more movement of traffic. In Figure 4.30, the arterial functional classification represents Interstates, Expressways, and Other. Other includes state and county roads. Knowing the functional classifications of roadways in the region can assist in the planning and development of these roadways as population and visitor numbers continue to increase.

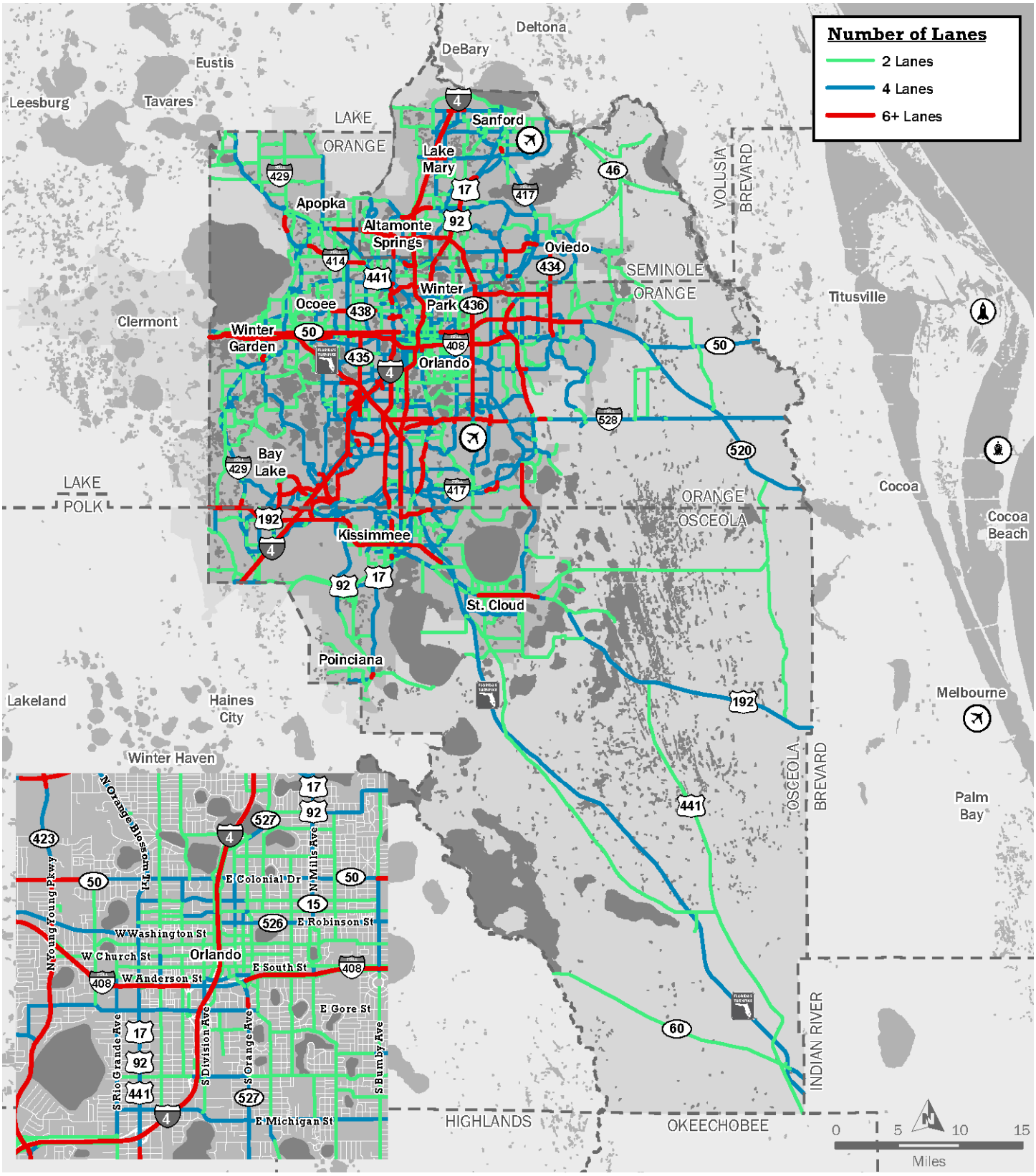
FDOT context classification identifies environments and assists in determining which roadway design elements are consistent with national best practices to implement. This is important when implementing maintenance and upgrades to roadways that residents and visitors use regularly. Figure 4.32 expresses the FDOT context classifications surrounding roadways within the region. A brief description of the categories of Context Classifications are as follows:

- C1 Natural: Natural or wilderness conditioned lands, including conservation lands or other lands unfit for settlement and development.
- C2 Rural: These lands are sparsely settled, and can include agricultural, grasslands, woodlands, and wetlands.
- C2T Rural Town: Developed areas in small concentrations, with rural and natural areas surrounding it. An example of this would be historic towns.
- C3R Suburban Residential: Mostly residential with a disconnected roadway network within large blocks of land.
- C3C Suburban Commercial: A majority of nonresidential uses with large building footprints and parking lots. This classification also has a sparse roadway network within large blocks of land.
- C4 Urban General: Mixed use land with a well-connected roadway network. Urban General can extend long distances, and roadways will generally connect to residential neighborhoods.
- C5 Urban Center: Mixed use land with a well-connected roadway network. Urban Centers are generally concentrated around a few blocks of land and are a part of a town or city's economic or civic center.
- C6 Urban Core: Highest densities and mixed use buildings with populations of over 1 million. Many of these areas are regional centers and key destinations. These areas are within a well-connected roadway network.
- LA Limited Access: Roadways that are limited in access to the public, such as toll roads.

A summary breakdown of the classification categories for primary roadways in the region are suburban at 46%, limited access at 31%, rural and natural at 16%, and urban at 7%.

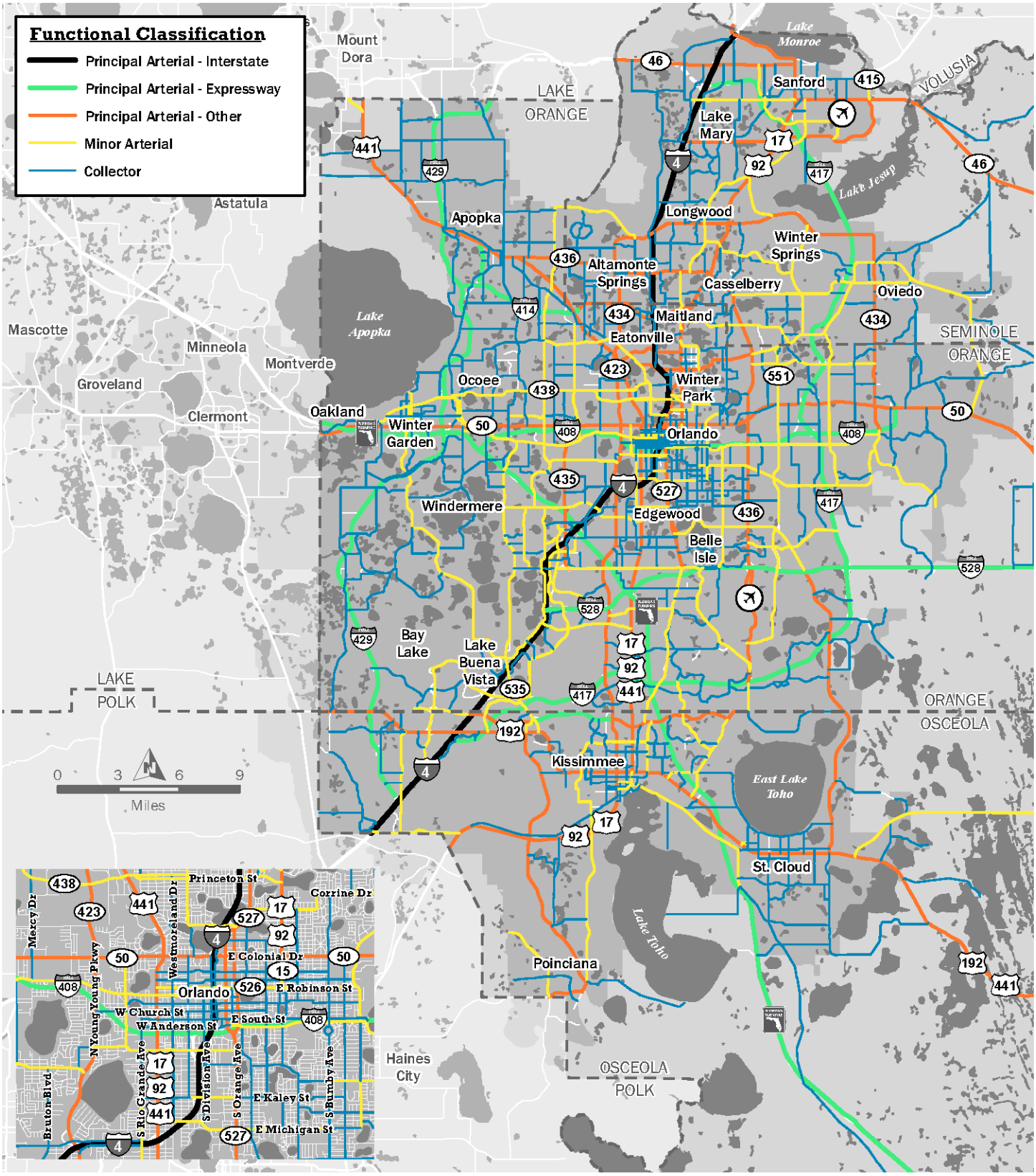


## Figure 4.29 | Number of Lanes



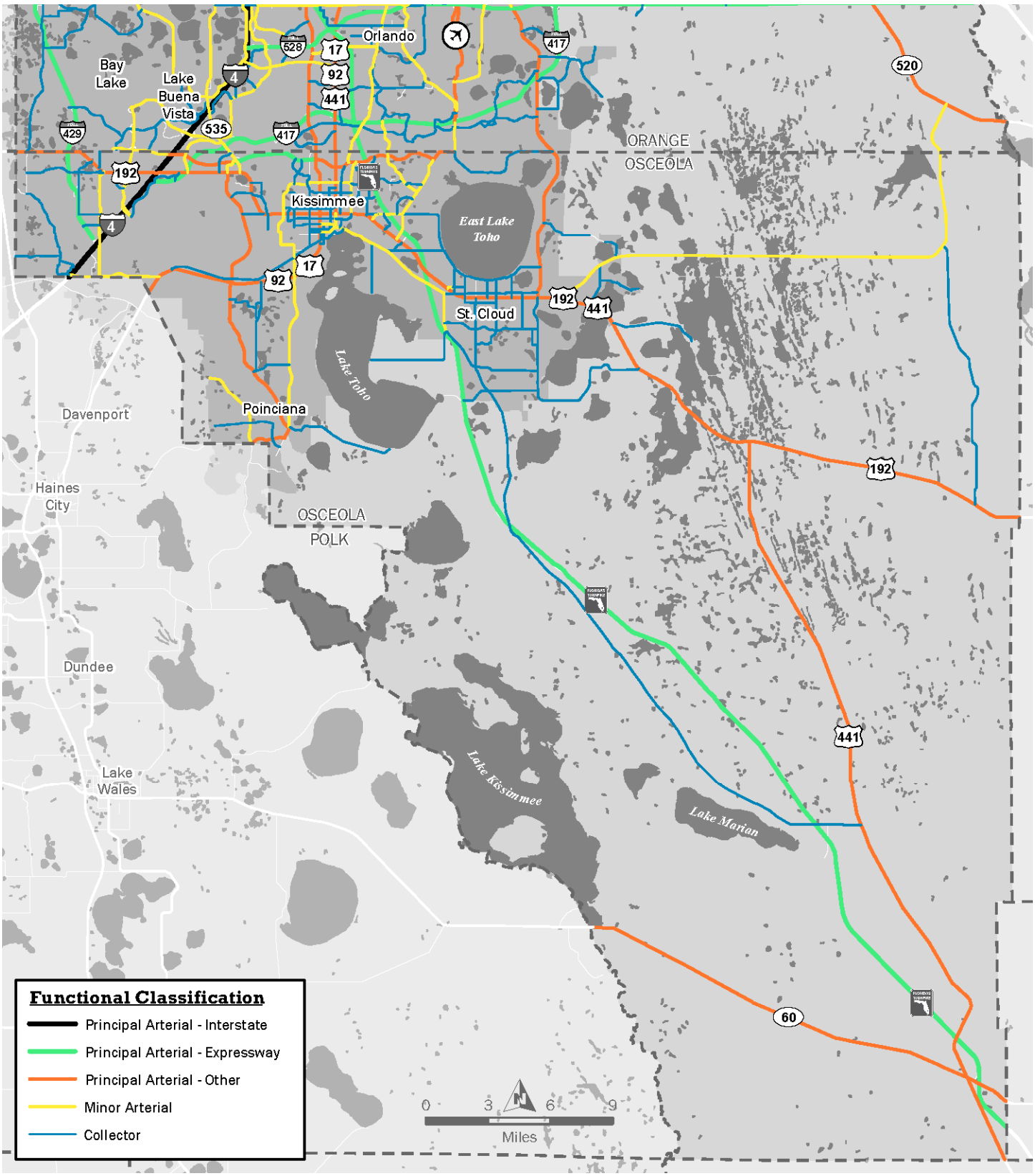

Data Source: FDOT Roadway Characteristics Inventory 2019

## Figure 4.30.1 | Functional Classifications in Urbanized Area



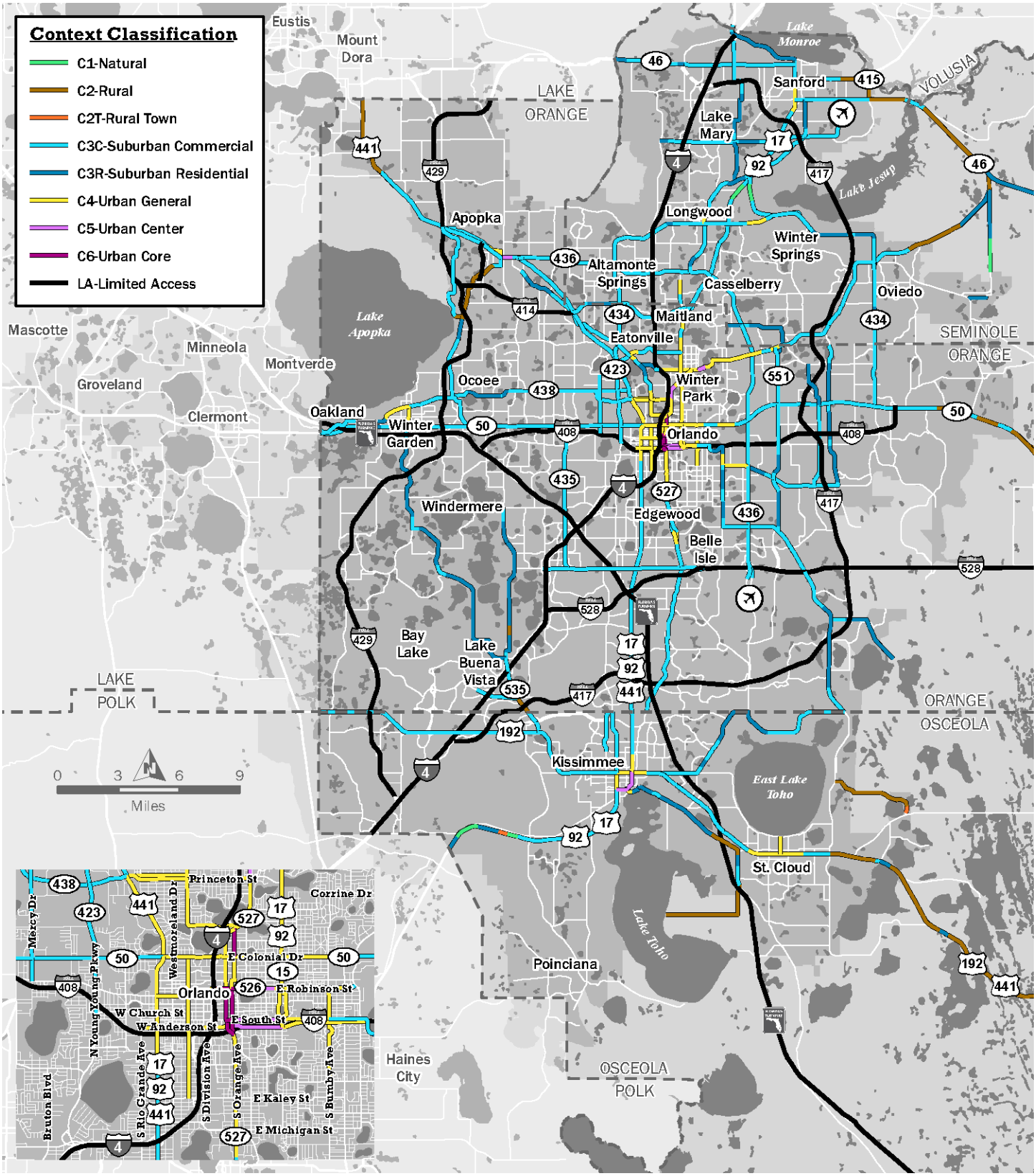

Data Source: FDOT 2018

## Figure 4.31.2 | Functional Classifications in Osceola County and South Orange County




Data Source: FDOT 2018

## Figure 4.32 | Context Classification




Data Source: FDOT 2019

### Strategic Intermodal System (SIS)

The Strategic Intermodal System is a high priority network of transportation facilities that affect mobility and the economy. SIS facilities include airports, freight rails, and corridor and connector roadways. The SIS is important as it is the Florida Department of Transportation's highest priority for transportation-related capacity investments. Additionally, it is a primary focus for implementing the Florida Transportation Plan (FTP) as well as other state plans. SIS facilities in the region are displayed in Figure 4.33.

### National Highway System

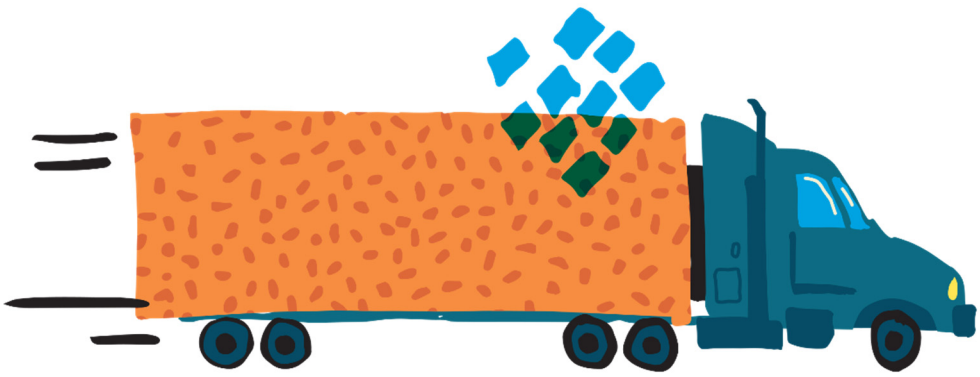
The National Highway System (NHS) is a strategic highways network in the United States. These highways are considered important to the economy, defense, and mobility of the country.

Figure 4.34 represents components of the NHS in the region. These components include interstates, STRAHNET routes, intermodal connectors, major principal arterials (formerly referred to as MAP-21 principal arterials), and other principal arterials, as well as unbuilt but planned sections. STRAHNET is the Strategic Highway Network, which are roads deemed necessary for emergency mobilization and peacetime movement of commodities to support U.S. military operations.

### National Highway Freight Network

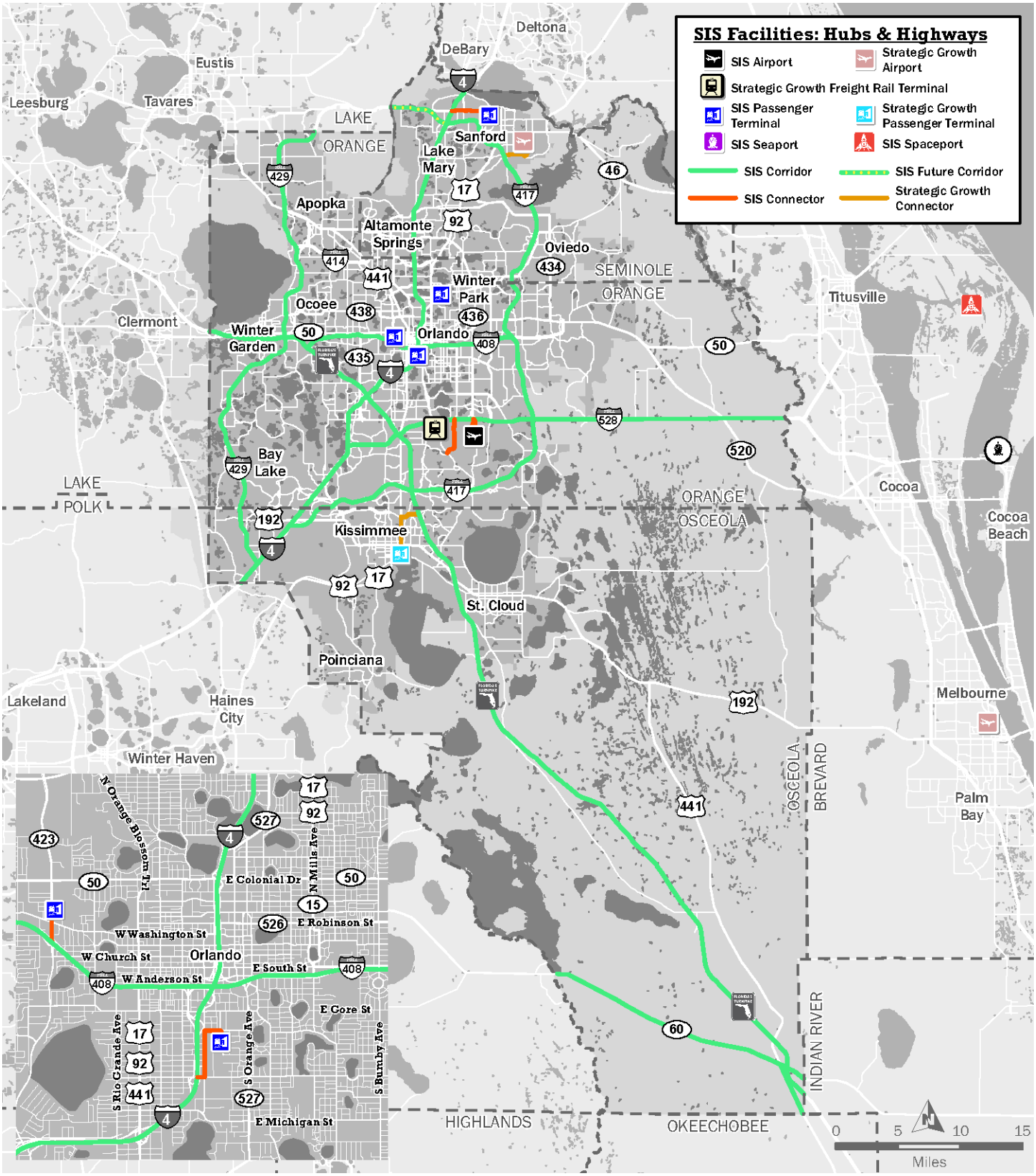
The National Highway Freight Network (NHFN) strategically directs Federal resources and policies towards improved performance of highway portions of the United States freight transportation system. The NHFN has a subsystem of roadways including the Primary Highway Freight System (PHFS), Critical Rural Freight Corridors (CRFCs), and Critical Urban Freight Corridors (CUFCs). PHFS is a network of highways that are identified as the most critical highway portions of the U.S. freight transportation system. There are 41,518 centerline miles within the system, which includes 37,436 centerline miles of Interstate, 4,082 centerline miles of non-Interstate roads. As part of NHFN, there are Other Interstate portions of roadways not on the PHFS, but they are not located in the region. CRFCs are public roads in a non-urbanized area that provide access and connections to PHFS. CUFCs are similar, but are public roads in urbanized areas. Connections made by CRFCs and CUFCs include ports, public transportation facilities, or other intermodal transportation facilities.

Figure 4.35 shows the NHFN roadways within the region.



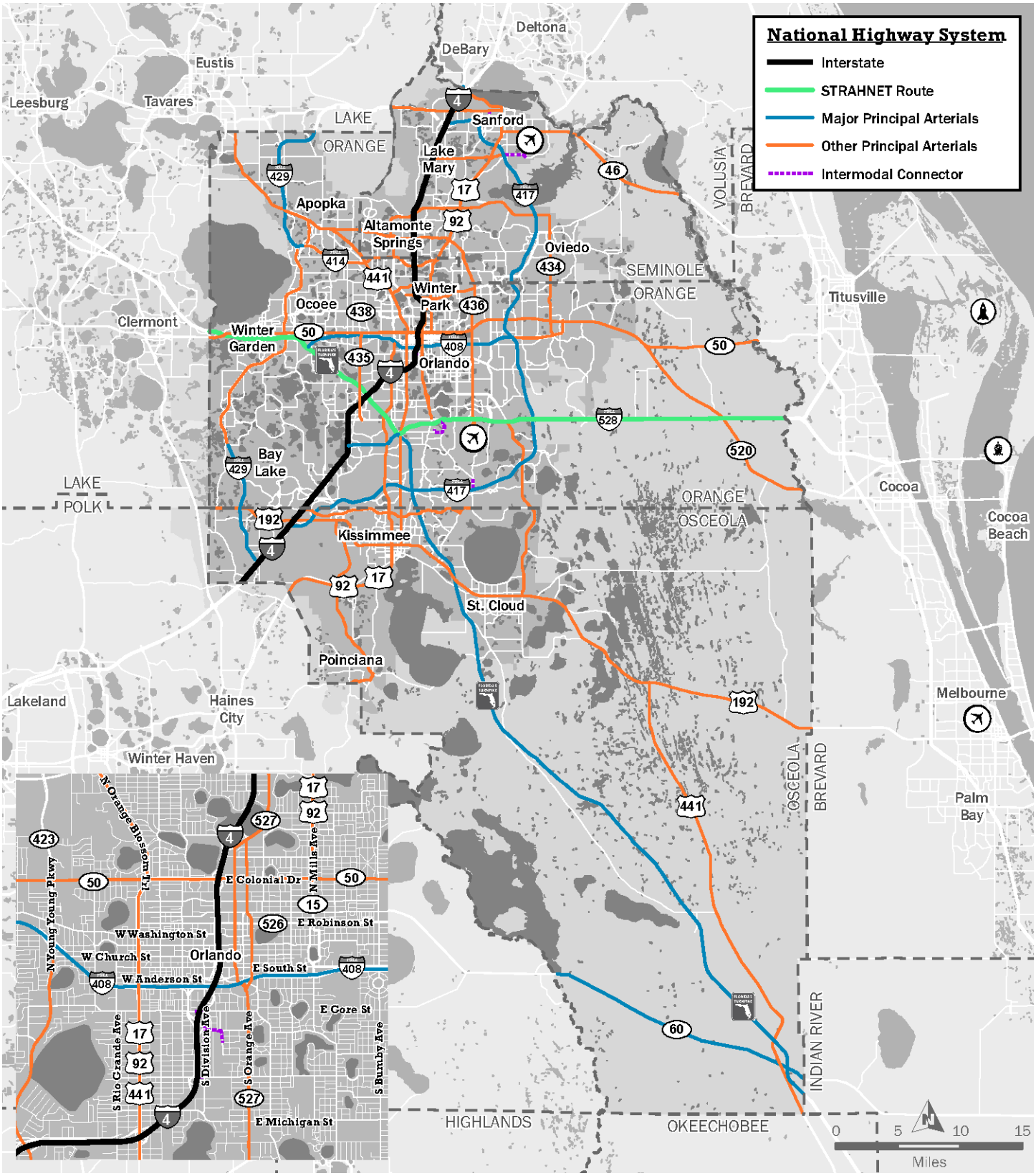


## Figure 4.33 | SIS Facilities



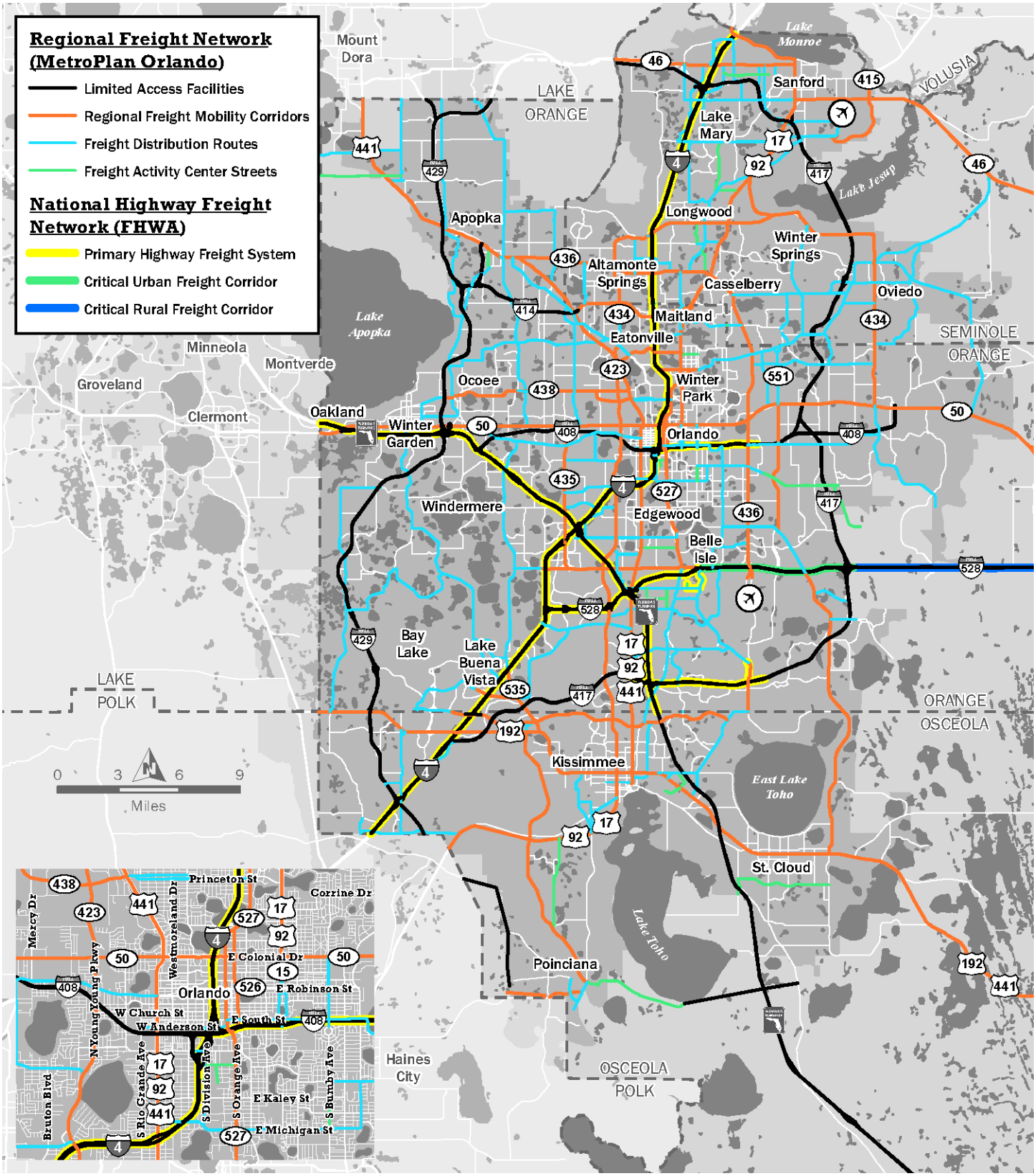

Data Source: FDOT 2018

## Figure 4.34 | National Highway System




Data Source: FDOT 2018

## Figure 4.35 | National Highway Freight Network




Data Source: FDOT 2018

## Truck Parking

Truck parking has been and continues to be a national safety concern. With a lack of truck parking available nationwide, tired truck drivers may continue to drive if they cannot find a place to rest or they may park in unsafe locations such as road shoulders and highway exit ramps. This is unsafe for both the truck driver and to those around them. In 2009, Jason Rivenburg was robbed and murdered when he parked his truck in an unsafe location due to a lack of truck parking. This spurred the passage of Jason's Law in 2012, which required states to evaluate their truck parking options as well as request funding to improve their current truck parking infrastructure.

Truck parking infrastructure growth and maintenance are important for safe driving conditions for truck drivers and the traveling public, whether residents or visitors. Figure 4.36 shows the truck parking available in the region. Regional truck parking infrastructure availability lags as the freight industry continues to grow and expand. A majority of the truck parking is currently private use at 81%, and the public use truck parking experiences between 76% to over 100% utilization. The FDOT District Five and Central Office Truck Parking studies found that the I-4 Corridor has a significant truck parking deficiency and is a top issue for statewide mobility.

## Rail Network

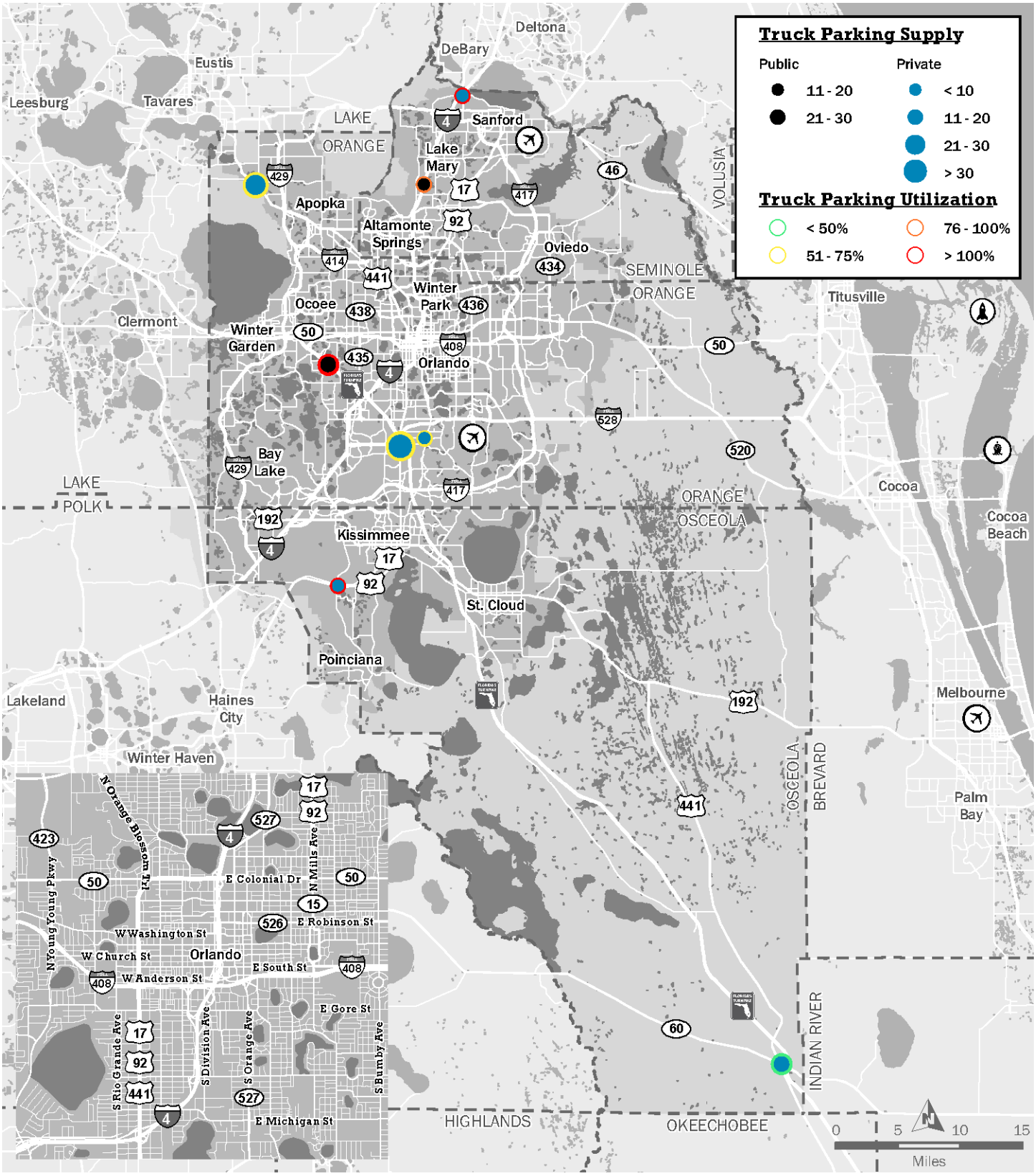
Central Florida has several rail-based transportation services. The network is shown in Figure 4.37. Running through the center of the region is the rail line that runs from Volusia County through Downtown Orlando to Poinciana in Osceola County, this segment is owned by the State of Florida. The line continues north towards Jacksonville and southwest toward Polk County under the jurisdiction and ownership of CSX Transportation (CSXT). FDOT's SunRail service is briefly discussed in the Transit section.

A summary of the other significant rail facilities/operators with the region are as follows:

- CSX Transportation (CSXT) is a Class I national freight railroad headquartered in Jacksonville. The railroad company provides rail and intermodal service, via a 21,000 route mile system, primarily in the eastern United States and Canada. A key facility located in adjacent Polk County (Winter Haven) is the Central Florida Intermodal Facility. A significant amount of transfers occur from rail to truck at this location.
- Florida East Coast Railway (FEC) is a Class II (shortline) regional freight railroad with 351-miles of track between Jacksonville and Miami that connects to the CSXT national railway system in Jacksonville. The FEC has corporate headquarters in Jacksonville and a freight terminal located in Orlando. FEC is currently working with Virgin Trains USA to initiate and expand passenger rail service on FEC rail corridors between Orlando, Brevard County, and Miami.
- Florida Central Railroad (FCEN) is a shortline that interchanges with CSXT in downtown Orlando. The railroad is owned by Pinsly Railroad Company in Boston, Massachusetts and based out of the Plymouth, Florida freight station. FCEN operates 68 miles of track and serves industries within the metropolitan region between Umatilla (Lake County) and Orlando.
- Amtrak provides three passenger rail service routes, including the Auto Train, to the Central Florida area. The Auto Train provides daily non-stop service for both passengers and their vehicles between Lorton, Virginia (Washington, DC area) and Central Florida (Sanford, FL). The Auto Train accommodates up to 320 vehicles on the 855-mile route. This service is planned to be enhanced with sleeping cars and meal service in early 2020. Passenger service is available on the Silver Star and Silver Meteor. All routes travel along the east coast between New York City and Orlando with continuing service to other Florida destinations.

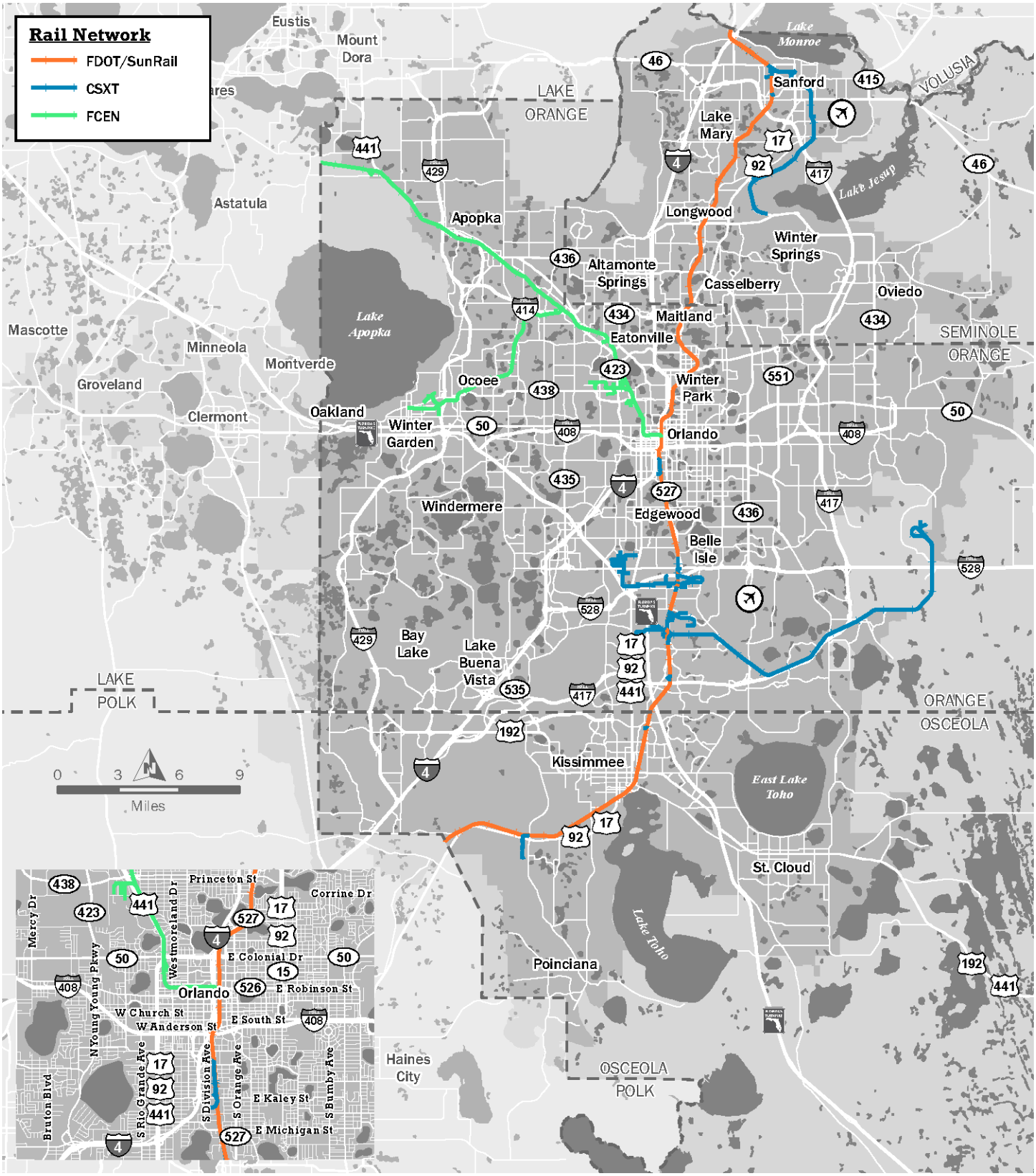


## Figure 4.36 | Truck Parking Supply




Data Source: FDOT District Five Truck Parking Study 2018

## Figure 4.37 | Rail Network




Data Source: FDOT 2017, Federal Railroad Administration 2017

## Transit Network


MetroPlan Orlando's market research has indicated that the "community wants more transportation options and recognizes the importance of connectivity between modes." There is a growing understanding among Central Florida residents that relying solely on autos – and designing streets and transportation networks solely for autos – is not sustainable financially, or in terms of how to manage growing traffic and provide transportation options for the region. A well connected and efficient regional public transportation system contributes to a healthy economy by providing access to jobs and reducing traffic congestion and air pollution. The region's primary transit facilities are shown in Figure 4.38 and highlights of the network are described below.

LYNX is the primary transit provider in the region, including a public transportation bus service for Orange, Osceola, and Seminole counties. A limited service extends into neighboring Polk and Lake Counties. Originally founded in 1972, the system has grown to service an area of approximately 2,500 square miles with over 310 coaches. Services include fixed routes, a free downtown circulator in Orlando (LYMMO) and Kissimmee (Kissimmee Connector), vanpool, weekday commuter service, door-to-door ACCESS LYNX paratransit van service and NeighborLink flex-service routes. Within the three county area, these services provide more than 79,000 rides each weekday.

The I-RIDE Trolley is a transportation service within the International Drive Resort Area. The I-RIDE Trolley travels on a 24-mile circulator route with two primary lines – Red Line and Green Line. I-Ride Trolley, in partnership with NextBus, provides a web-based, real time, ADA-friendly, GPS-tracked service to reveal trolley arrival times for each stop. Ridership data is collected by stop, on a daily, monthly, and yearly basis. I-RIDE Trolley service also collects data for maintenance for the transit buses.

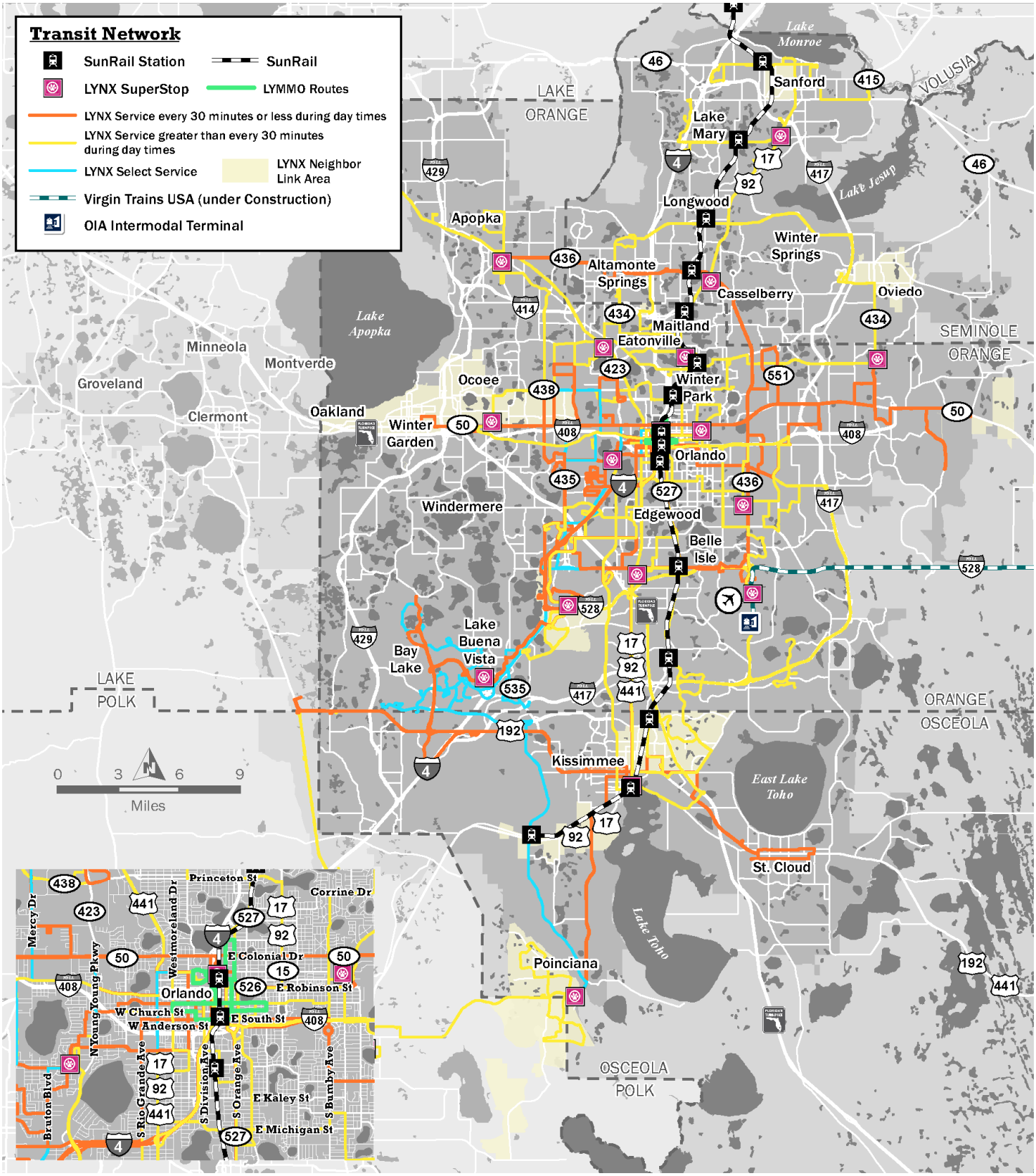
The City of Sanford provides a free downtown trolley through its Community Redevelopment Agency (CRA). The Sanford trolley travels from the Sanford SunRail station to downtown Sanford, making frequent stops along the way before returning to the SunRail station. In addition to the trolley, the CRA also offers a free shuttle from the Amtrak Auto Train to the Sanford Welcome Center.

SunRail (Central Florida Commuter Rail Transit System) is a commuter rail system providing weekday service. Traveling in a north-south direction, generally paralleling I-4, SunRail operates over 49 miles with 40 trains connecting Osceola, Orange, Seminole, and Volusia Counties. Currently, there are 16 stations in the network. Rand Yard, located in Sanford, provides storage tracks and a maintenance facility for SunRail.

Virgin Trains USA is a privately owned intercity rail system that broke ground in the region in 2019. The high-speed route is expected to connect South Florida to the region at the Orlando International Airport Intermodal Terminal in 2022.



## Figure 4.38 | Transit Network




Data Source: LYNX 2017, SunRail 2017

# Pedestrian, Bicycle, and Trails

## Sidewalk Network

Sidewalk networks assist in creating important multimodal connections within a region. Having sidewalks available for pedestrians helps to ensure a safer travel experience. Figure 4.39 shows the region's sidewalk inventory, which includes three categories: no sidewalks, sidewalks on only one side of the road, and sidewalks on both sides of the road. Limited access roadways and areas under construction are not included or referenced on the exhibit.

## Bicycle Network

Bicycle network facilities within the region include shared paths, bike lanes, and paved shoulders. Shared use paths and trails are physically separated from vehicle traffic by an open space or barrier in the right-of-way, or are given their own right-of-way. Shared paths are generally designed for both bicyclists and pedestrians and have space for two-way traffic. These paths provide low-stress environments for bicyclists and pedestrians. Bike lanes provide a portion of roadway for bicyclists. These lanes are generally one-way and carry bicyclists in the same direction as vehicle traffic. These areas generally have limited right-of-way, but also are in areas with lower travel speeds and volume. Finally, paved shoulders are located where there is no curb and gutter, such as rural roads. Due to the rural nature of these paved shoulder lanes, they are located on high-speed facilities and wind blast effects can be felt. However, paved shoulder lanes provide another way to connect these rural areas, as well as provide a way to tour and visit scenic rural areas.

Bicycle infrastructure is important for connecting the region, especially in areas with underserved communities who may not have a vehicle to travel with. Bicycle facilities in the region are represented in Figure 4.40.

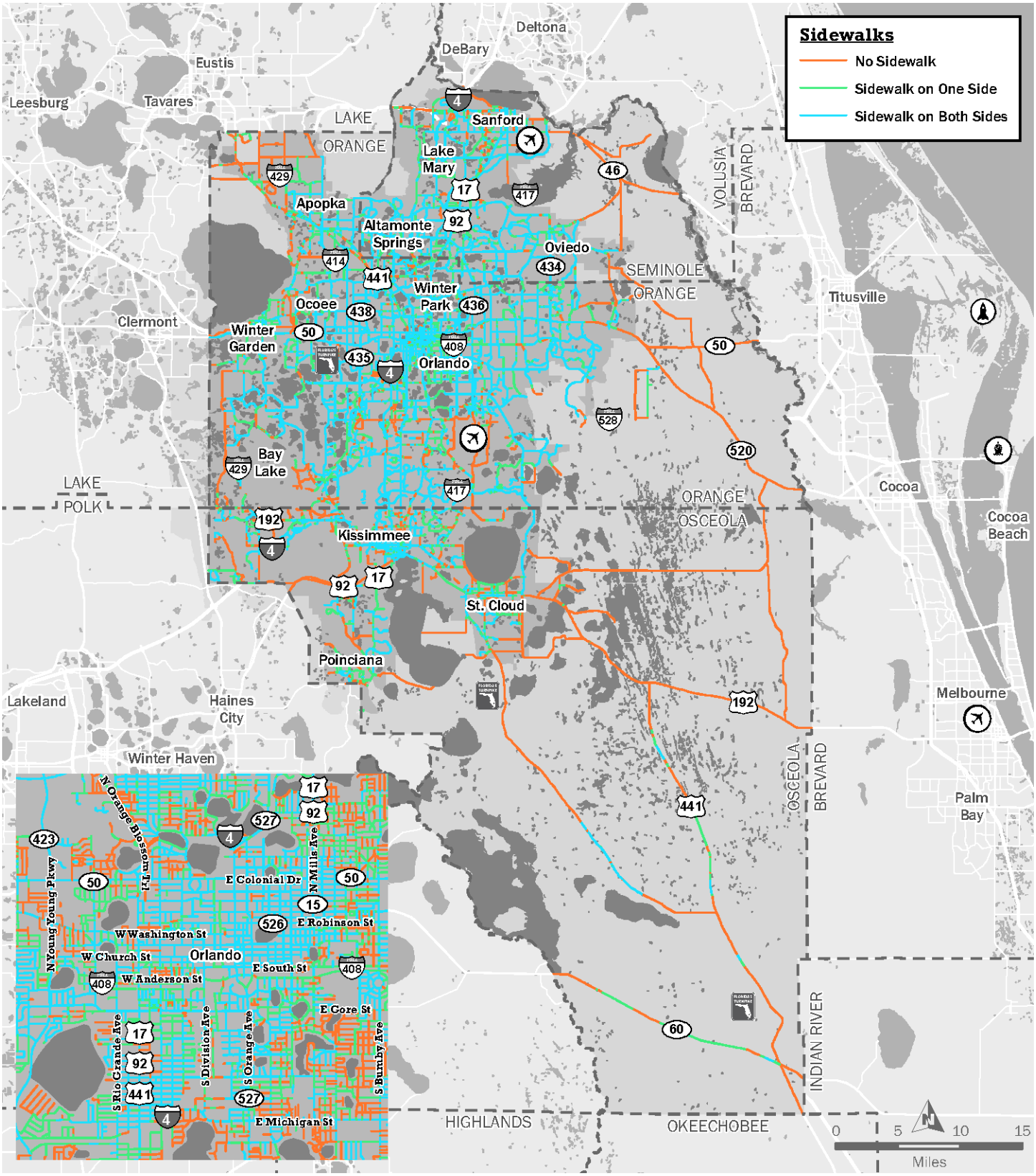
## Trail Network

The trail network in the state of Florida and across the region assists in connecting different regions to one another. Trails in the region include paths for bicyclists and pedestrians, as well as kayaking trails called "paddling trails." These trails are represented in Figure 4.41.

The Florida Shared-Use Nonmotorized (SUN) Trail Network was developed by the Florida Legislature in 2014 and 2015 to further the State's commitment to mobility improvements. The SUN Trail Network is available for use by both bicyclists and pedestrians, and the trails are separated from vehicular traffic.

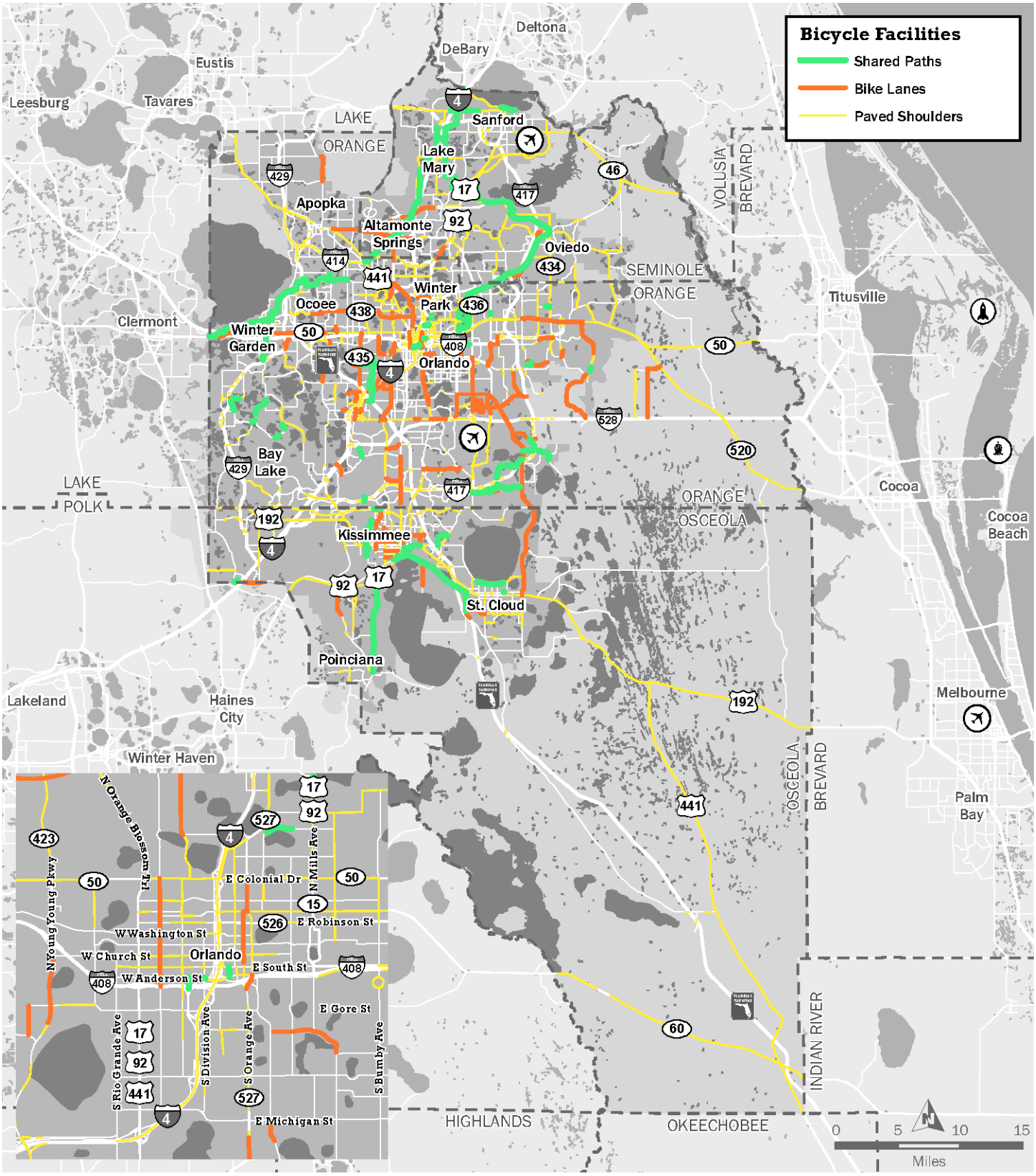


## Figure 4.39 | Sidewalk Network



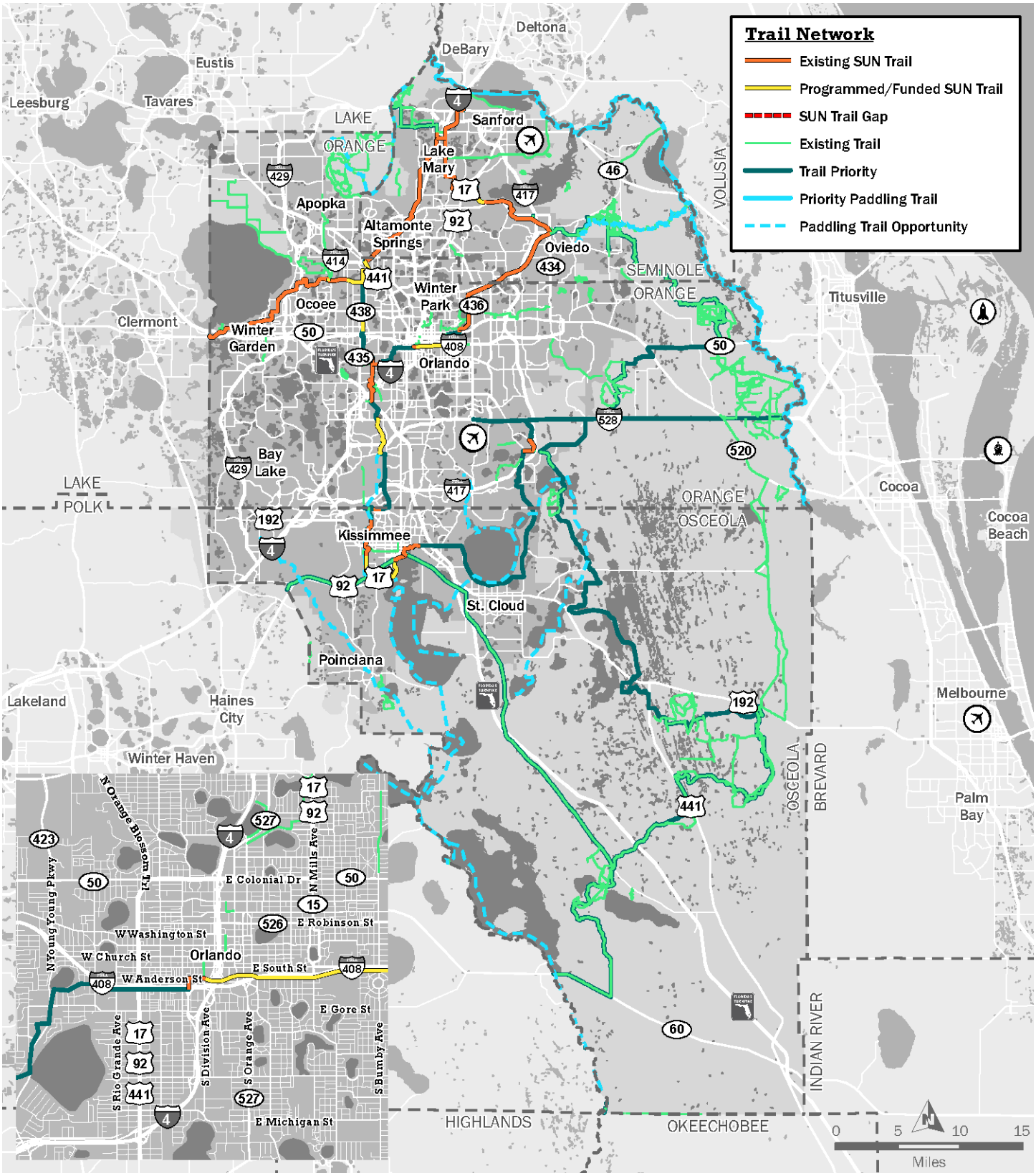

Data Source: ECFRPC LOTIS 2019

## Figure 4.40 | Bicycle Network




Data Source: ECFRPC LOTIS 2019

## Figure 4.41 | Trail Network




Data Source: Florida Department of Environmental Protection 2018

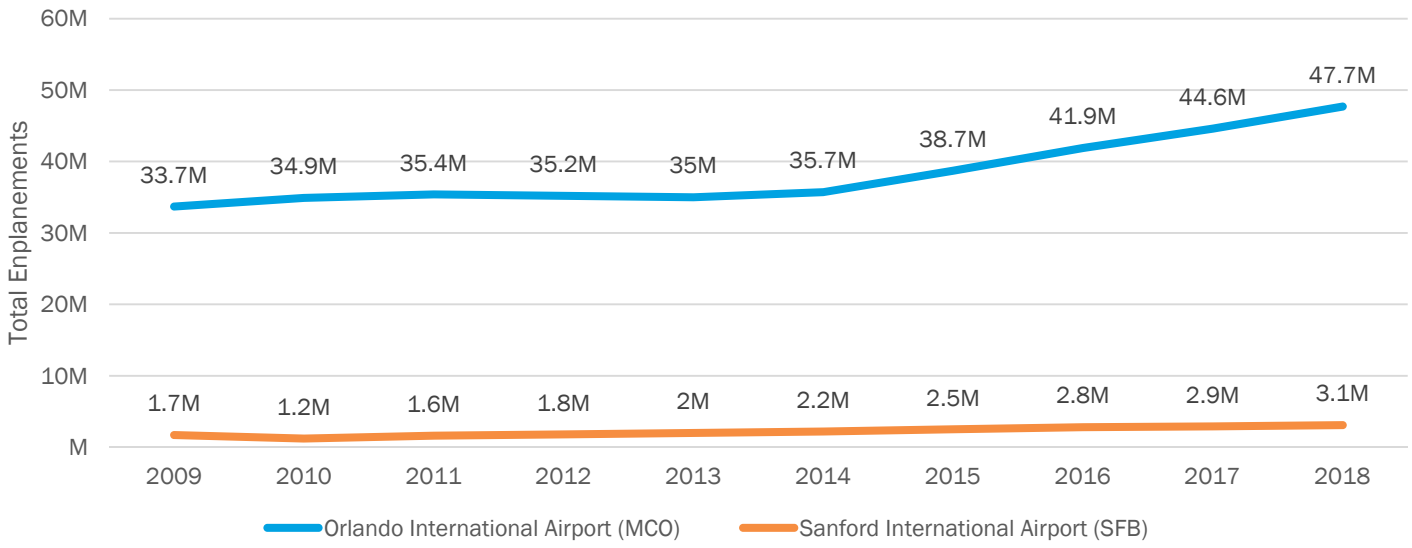
## Airports

Two primary airports provide commercial service in the Central Florida area: the Orlando International Airport (MCO), and the Orlando-Sanford International Airport (SFB). Both airports are owned and managed by governmental airport authorities: the Greater Orlando Aviation Authority and the Sanford Airport Authority, respectively.

Located six miles southeast of downtown Orlando, MCO is the region's largest airport with over 40 airlines presently servicing the airport. MCO's total passengers rose by 3.9%/yr. since 2009 setting an annual record of nearly 47.7 M in 2018[8] . Multimodal transportation options are available at MCO, including shuttles to Disney and Universal hotels, LYNX bus transit to area attractions, and access to SunRail via a bus link to the Sand Lake Road SunRail station. Some cruise lines also offer ground transportation to Port Canaveral.

SFB is located east of SR 417, approximately 35 miles north of MCO. Five airlines serve this airport. As shown in Figure 4.42, annual passengers at SFB grew at a strong rate of 6.9% per year over the last decade, reaching nearly 3.1M in 2018[9]. SFB is also a general aviation airport and hosts one of the largest flight schools in the country.

**Figure 4.42 | Total Annual Passengers at the Two Main Commercial Airports**




Data Source: GOAA 2018; SAA 2019

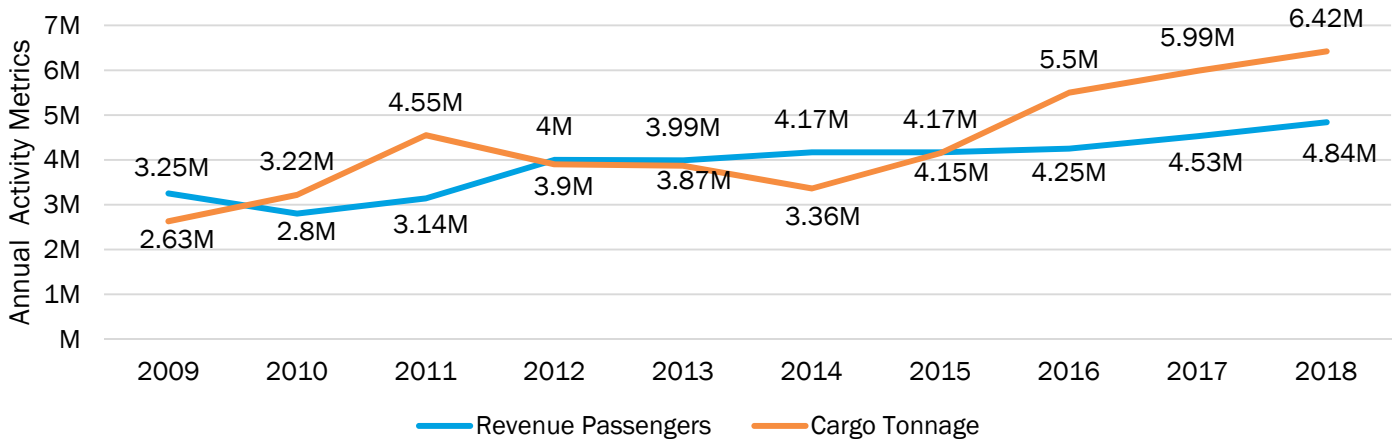
[8] Source: Greater Orlando Aviation Authority, 2019

[9] Source: Sanford Airport Authority, 2019

## Seaport

The closest seaport to the three county region is located in Brevard County at Port Canaveral ("the Port"), less than one hour east of Orlando. This marine transportation hub serves cruise lines, cargo ships, businesses, and visitors. The Port is able to accommodate the newer, larger cargo ships that cross the Panama Canal. On average, 10 cargo or passenger cruise line ships enter the Port daily. Eighty percent of the Port's revenue is generated by cruise business. Cruise revenue passengers at the Port grew by 4.5%/yr. over the last decade (see Figure 4.43) reaching an annual record of 4.8 million in 2018. Additionally, more than 6.4 million tons of cargo was processed at the Port in 2018, an increase of 3.8 million (10.4%/yr.) since 2009[10]. Current infrastructure projects, such as the construction of a new cruise terminal complex, roadway expansions, and construction of multipurpose berths will accommodate additional passengers and cargo.

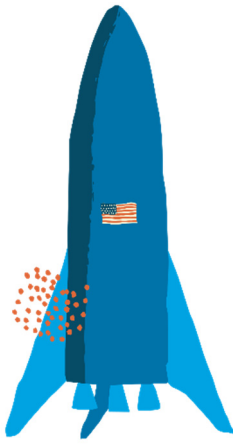
**Figure 4.43 | Port Canaveral Historical Activity Metrics**




Data Source: Port Canaveral Authority CAFRs 2019

## Spaceport

Approximately 60 miles southeast of Orlando's central business district is Cape Canaveral. The Cape Canaveral includes Cape Canaveral Air Force Station and the Kennedy Space Center (on Merritt Island). The Kennedy Space Center contains both the National Aeronautics and Space Administration's (NASA) launch facility (spaceport), and a major, international visitor complex, hosting over 1.5 million visitors annually[11]. The Kennedy Space Center spaceport hosts manned space missions for the US government and launches private rockets[12]. Nineteen rocket launches occurred in 2018, which is expected to double by 2020, and more than triple by 2023[13]. The growing space industry not only launches economic expansions, but also attracts visitors to the region to witness history in the making. This influx of businesses and residents places increasing strains upon the existing transportation network, particularly during event-based rocket launches. Visitor impacts to the transportation network will become more poignant when manned space missions are launched from the Kennedy Space Center once more.



[10] Data Source: Port Canaveral Authority CAFR 2019
[11] Data Source: Space.com website; Available at https://www.space.com/17705-nasa-kennedy-space-center.html
[12] Data Source: SpaceX website available at https://www.spacex.com/about
[13] Data source: Space Coast TPO State of the System Report 2018



# System Performance

There are multiple ways to understand the performance of a multimodal system. The performance of the system includes both the state of repair and the operation of individual modes.

## Roadway

### Daily Traffic Volumes

Annual average daily traffic (AADT) is a system performance measure for roadways that looks at the total volume of vehicle traffic on a roadway for a year, divided by 365 for each day. AADT is different than average daily traffic (ADT) since it looks at traffic volume across an entire year. The AADT of the region is shown in Figure 4.44.

### Roadway Level of Service (LOS)

Roadway level of service (LOS) represents operating conditions of a roadway through a letter code system. Levels are related to the volume of traffic and are determined by factors and performance measures including flow of traffic, vehicle speed, density, congestion, and comfort levels.

- LOS A: Traffic that is free-flow and individual users are unaffected by other individuals on the road.
- LOS B: Stable flow of traffic with high degree of freedom to select speed and operating conditions
- LOS C: Stable flow of traffic but more restricted. Significant interactions with other individuals in the traffic stream are common. Level of comfort and convenience begins to decline.
- LOS D: High-density traffic flow in which speed and operating conditions are restricted. Comfort and convenience continue to decline even if flow is stable.
- LOS E: Unstable flow and near capacity volumes of traffic. Comfort and convenience levels are poor.
- LOS F: Forced flow of traffic with stop-and-go waves, poor travel times and comfort and convenience, as well as additional crash exposure.

Figure 4.45 represents the LOS for major roadways in the region. As population, employment, and tourism continue to grow, the roads are likely to continue to degrade in LOS.

### Pavement Conditions

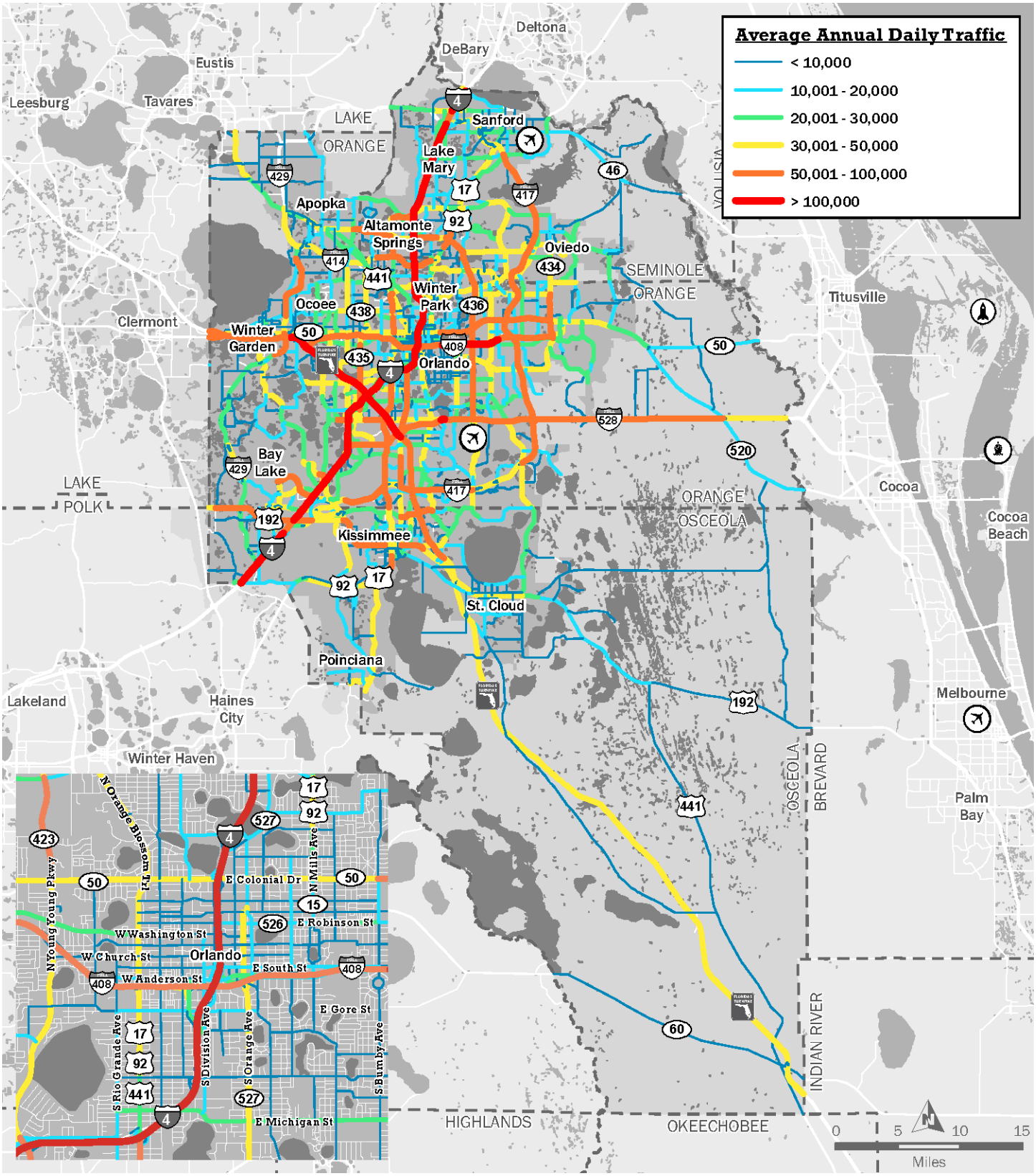
Pavement condition data is used to assess performance and conditions of roads in order to predict future rehabilitation needs. The state has completed and maintained a condition assessment of its network and today, approximately 36.4% of pavement is in good condition and 63.2% is in fair condition. The rest of the pavement (0.4%) is in poor condition. Figure 4.46 shows the pavement conditions across the region.

### Bridge Conditions

Condition of bridges throughout the region are summarized in Figure 4.47 by showing the compromised bridges. Compromised bridges are those that are functionally obsolete or structurally deficient, and are broken up into two different categories. Functionally obsolete bridges are those that do not have wide enough lanes, adequate shoulder widths, or adequate shoulder clearances to serve traffic. These bridges can also occasionally flood. Structurally deficient bridges are ones where the riding surface, the supports beneath the riding surface, or the foundation and supporting posts, are rated four (4) out of nine (9) or below from the American Road & Transportation Builders Association (ARTBA). This means the bridge must be monitored, inspected, and maintained. There are 138 functionally obsolete bridges in the region, as well as three (3) structurally deficient bridges.

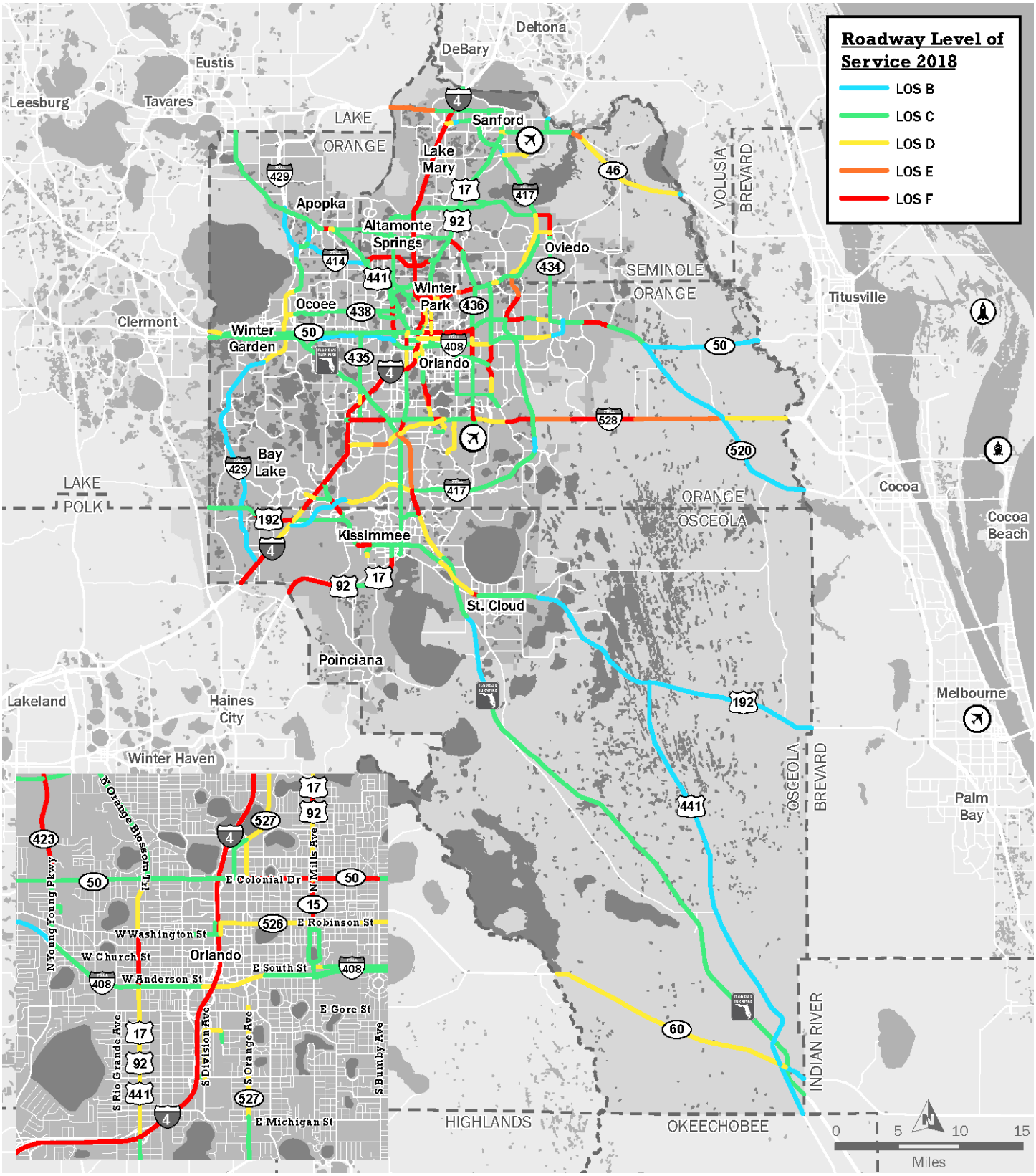


## Figure 4.44 | Annual Average Daily Traffic



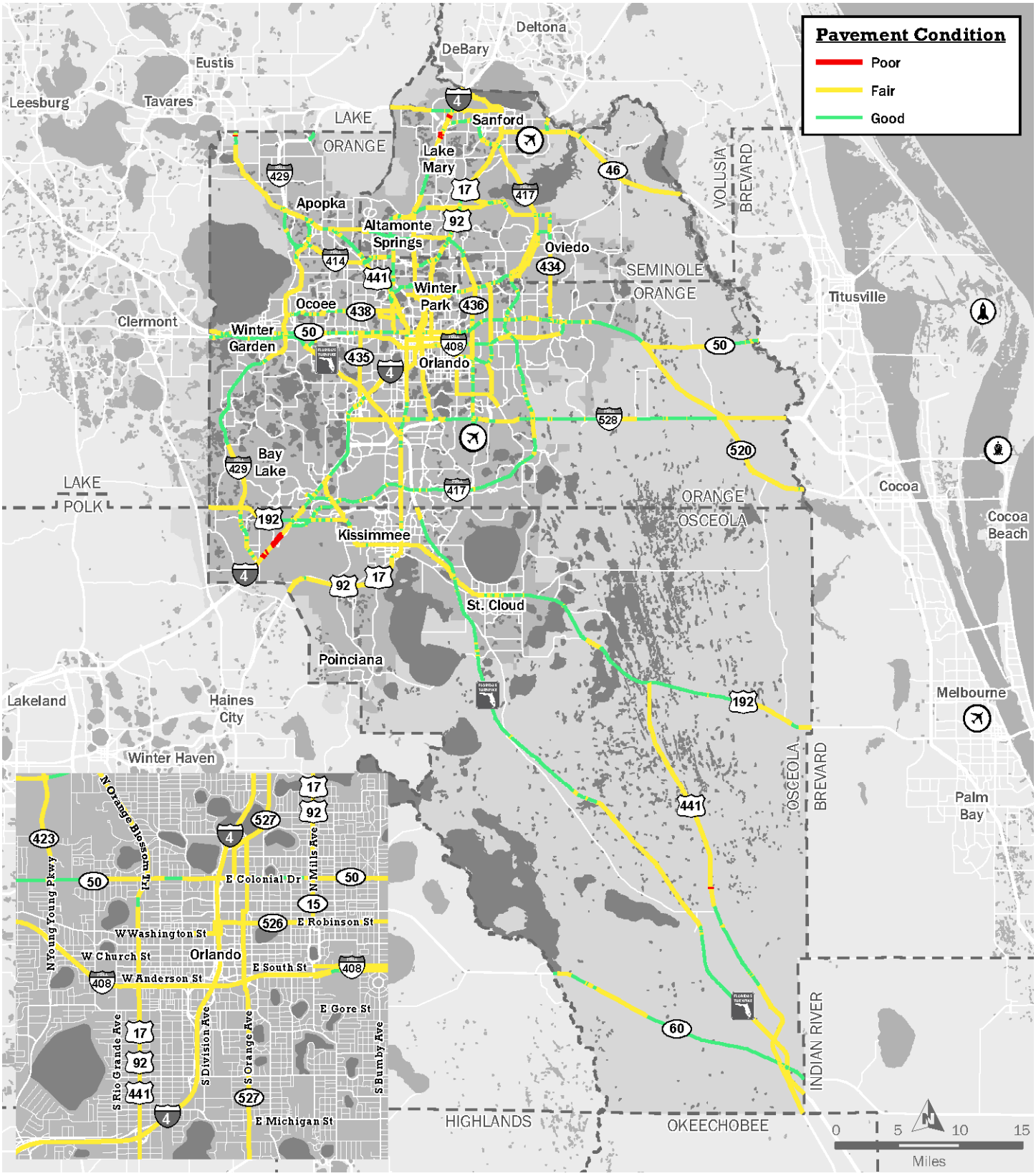

Data Source: FDOT Florida Traffic Online 2019

## Figure 4.45 | Roadway Level of Service (LOS) (2018)



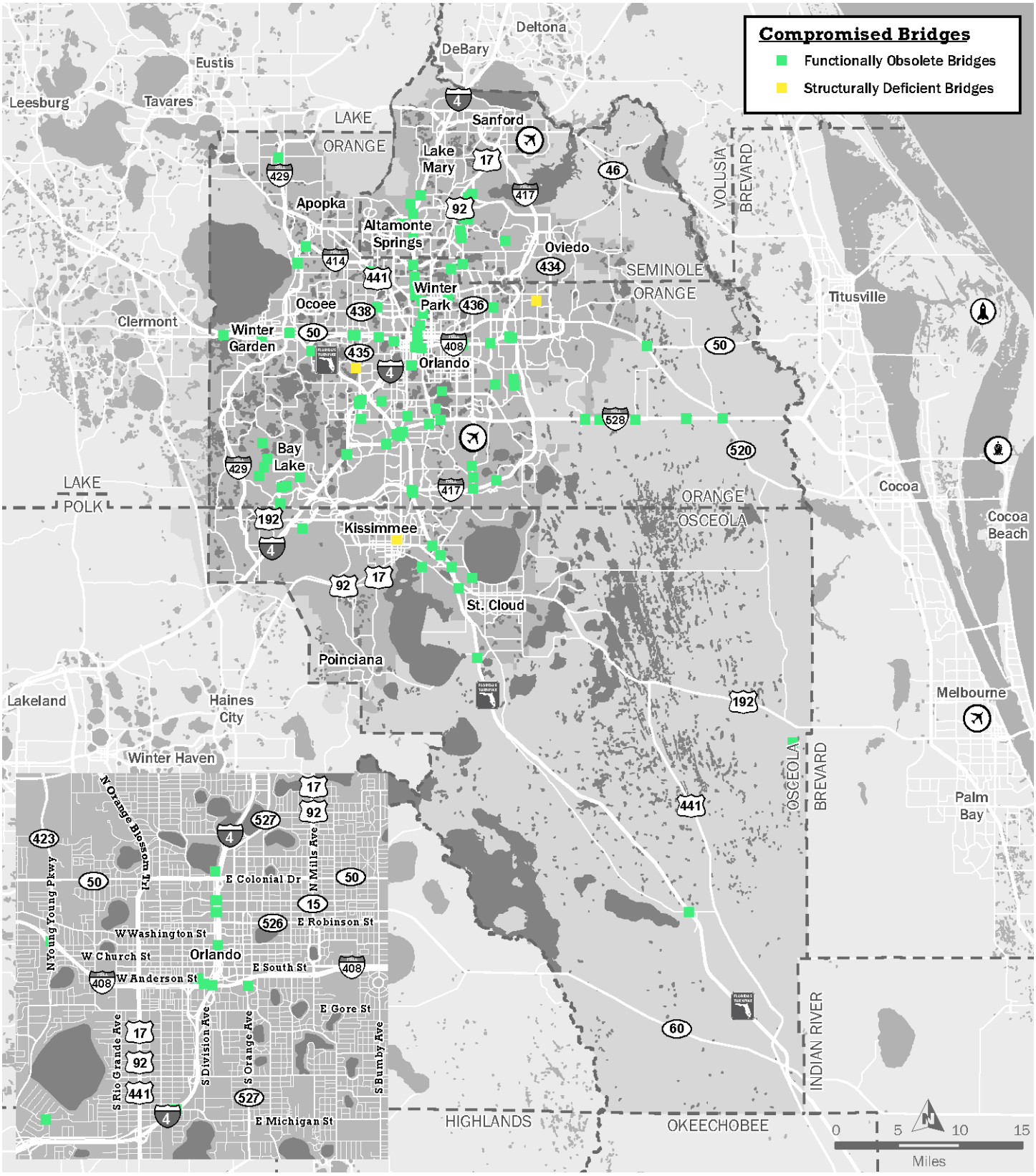

Data Source: FDOT LOS ALL 2019

## Figure 4.46 | Pavement Conditions




Data Source: FDOT State Materials Office 2019

## Figure 4.47 | Compromised Bridges




Data Source: FDOT Structures Maintenance Office 2019

# Transit

There are many ways to track transit performance throughout the region. LYNX's Transit Development Plan provides an extensive amount of detailed information related to this performance. One of the key measures is transit ridership. Transit ridership in the region is highest in the densest parts of the urbanized areas of the region, as seen in Figure 4.48. The highest areas of concentration are generally in Downtown Orlando and in the areas with a high concentration of theme parks and hotels.

## Transit Asset Management (TAM)

The MetroPlan Orlando region is served by LYNX, which provides fixed-route bus service as well as door-to-door paratransit service, and SunRail, the region's commuter rail system. Both LYNX and SunRail are considered Tier I providers and, as such, each must develop a TAM Plan. On February 13, 2019, MetroPlan Orlando agreed to support LYNX's transit asset management targets, thus agreeing to plan and program projects in the Transportation Improvement Program that once implemented, are anticipated to make progress toward achieving the transit provider targets. The TAM targets are based on the condition of existing transit assets and planned investments in equipment, rolling stock, infrastructure, and facilities. The targets reflect the most recent data available on the number, age, and condition of transit assets, and expectations and capital investment plans for improving these assets. Table 4.2 below is from LYNX's TAM Plan and summarizes LYNX's performance measures and FY 2018/19 targets, which are the latest targets available. LYNX's targets will be updated each fiscal year.

**Table 4.2 | Transit Asset Management Performance Measures and FY19 Targets**

| Category | Asset Class | ULB (Yrs.) | Total Number | Rolling Stock Equipment Total Exceeding ULB | Current Performance | FY2019 Performance Targets |
|---|---|---|---|---|---|---|
| Rolling Stock | ***Motor Bus*** | | | | | |
| | Articulated Bus (AB) | 15 yrs. | 18 | 0 | 0.0% | 0.0% |
| | Bus (BU) | 15 yrs. | 292 | 0 | 0.0% | 2.5% |
| | ***Demand Response*** | | | | | |
| | Automobile (AO) | 7 yrs. | 5 | 5 | 100.0% | 75.0% |
| | Cutaway (CU) | 7 yrs. | 183 | 39 | 21.3% | 17.0% |
| | Van (VN) | 7 yrs. | 30 | 0 | 0.0% | 1.0% |
| | ***Vanpool*** | | | | | |
| | Van (VN) | 7 yrs. | 194 | 7 | 3.6% | 2.3% |
| | **Rolling Stock Total** | - | **722** | **51** | **7.1%** | **6%** |
| Equipment | Automobiles | 7 yrs. | 23 | 4 | 17.4% | 15.0% |
| | Trucks and Other Rubber Tire Vehicles | 7 yrs. | 80 | 57 | 71.3% | 70.0% |
| | Special | 4 yrs. | 8 | 8 | 100% | n/a |
| | Maintenance Equipment | 17 yrs. | 219 | 75 | 34% | n/a |
| | MIS/IT/Network System | 5 yrs. (software), 7 yrs. or 10 yrs. (hardware) | 309 | 182 | 58.9% | n/a |
| | Other Systems | 6.8 | | | | n/a |
| | **Equipment Total** | - | **639** | **326** | **51%** | **58.0%** |
| Facilities | Passenger Facilities | n/a | 14 | 0 | 0.0% | 0.0% |
| | Admin and Maintenance | n/a | 4 | 1 | 25.0% | 23.0% |
| | **Facilities Total** | - | **18** | **1** | **5.6%** | **5.1%** |
| | **Overall** | - | **1,382** | **382** | **27.6%** | **12.7%** |

Data Source: MetroPlan Orlando FY2019-2020 Transportation Improvement Program



## Bicycle and Pedestrian

Understanding the mode split within the region provides a good understanding of the mobility choices that people are making. At a regional level, this information is available from the American Community Survey (ACS) and the commute to work percentages are reported in five year ranges. A comparison of the combined three county region's mode share between the two periods of 2013-2017 and 2005-2009 is shown in the following table. Table 4.3 shows minor changes in mode for the region.

### Table 4.3 | American Community Survey Mode Data

| Commute to Work Mode | 2005-2009 | 2013-2017 |
|---|---|---|
| **Drove Alone** | 80.5% | 80.0% |
| **Carpooled** | 10.0% | 9.5% |
| **Public Transit** | 1.9% | 2.1% |
| **Walked** | 1.1% | 1.0% |
| **Bicycle** | 0.4% | 0.4% |
| **Taxi, Motorcycle, Other** | 1.6% | 1.5% |
| **Worked at Home** | 4.4% | 5.4% |

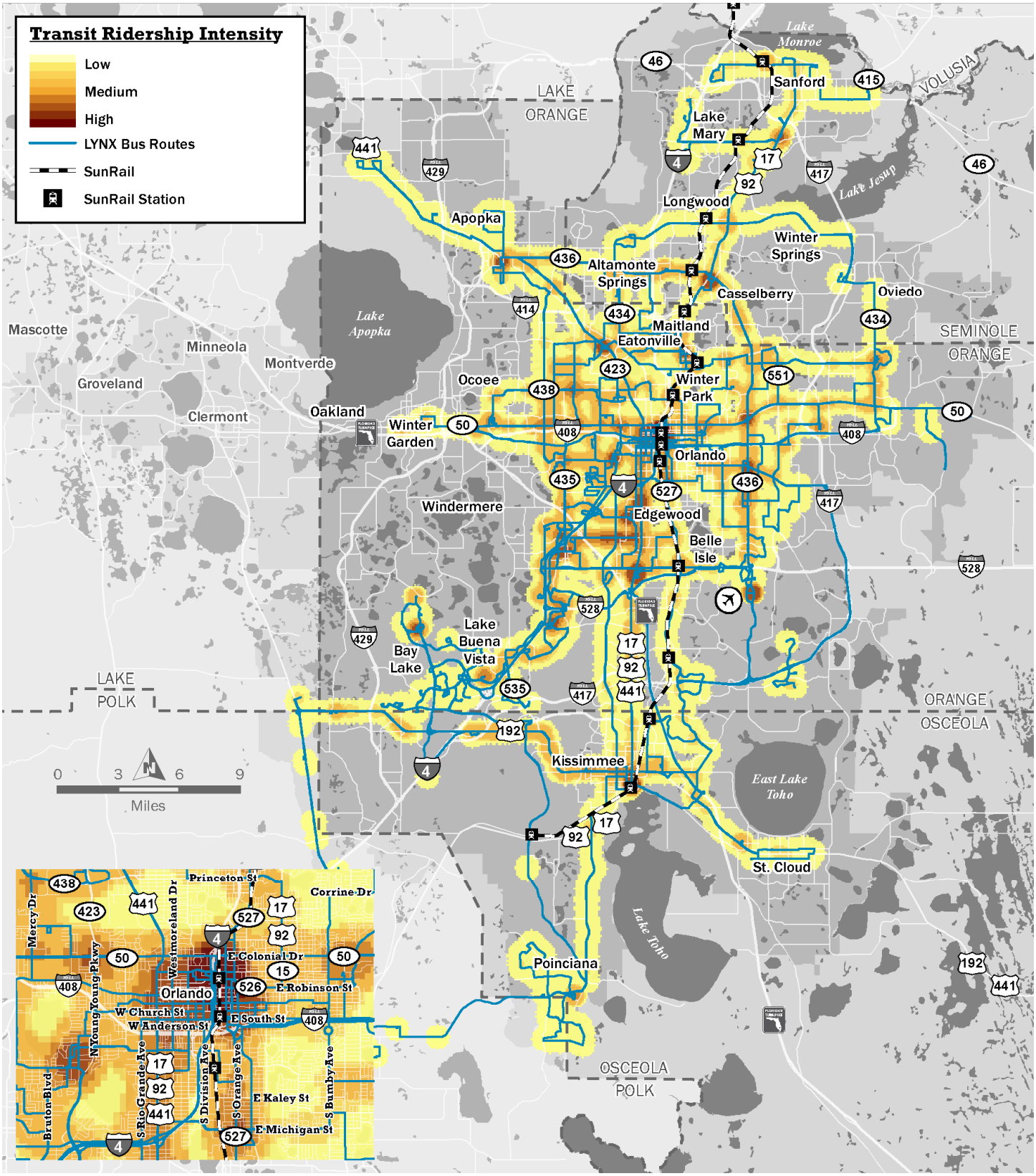
Data Source: U.S. Census Bureau, American Community Survey

MetroPlan Orlando has also initiated a bicycle and pedestrian count program to help provide more information related to bicycle and pedestrian volumes and trends in specific areas in the region. This provides a good snapshot of how things are functioning and changing on a more localized basis.

The safety of the vulnerable users such as a bicyclists and pedestrians has been a concern for over a decade and the overall trend was discussed earlier in this report. Figure 4.49 shows where the highest concentrations of bicycle and pedestrian crashes are occurring. Generally, they are happening in activity centers in the densest parts of the region.

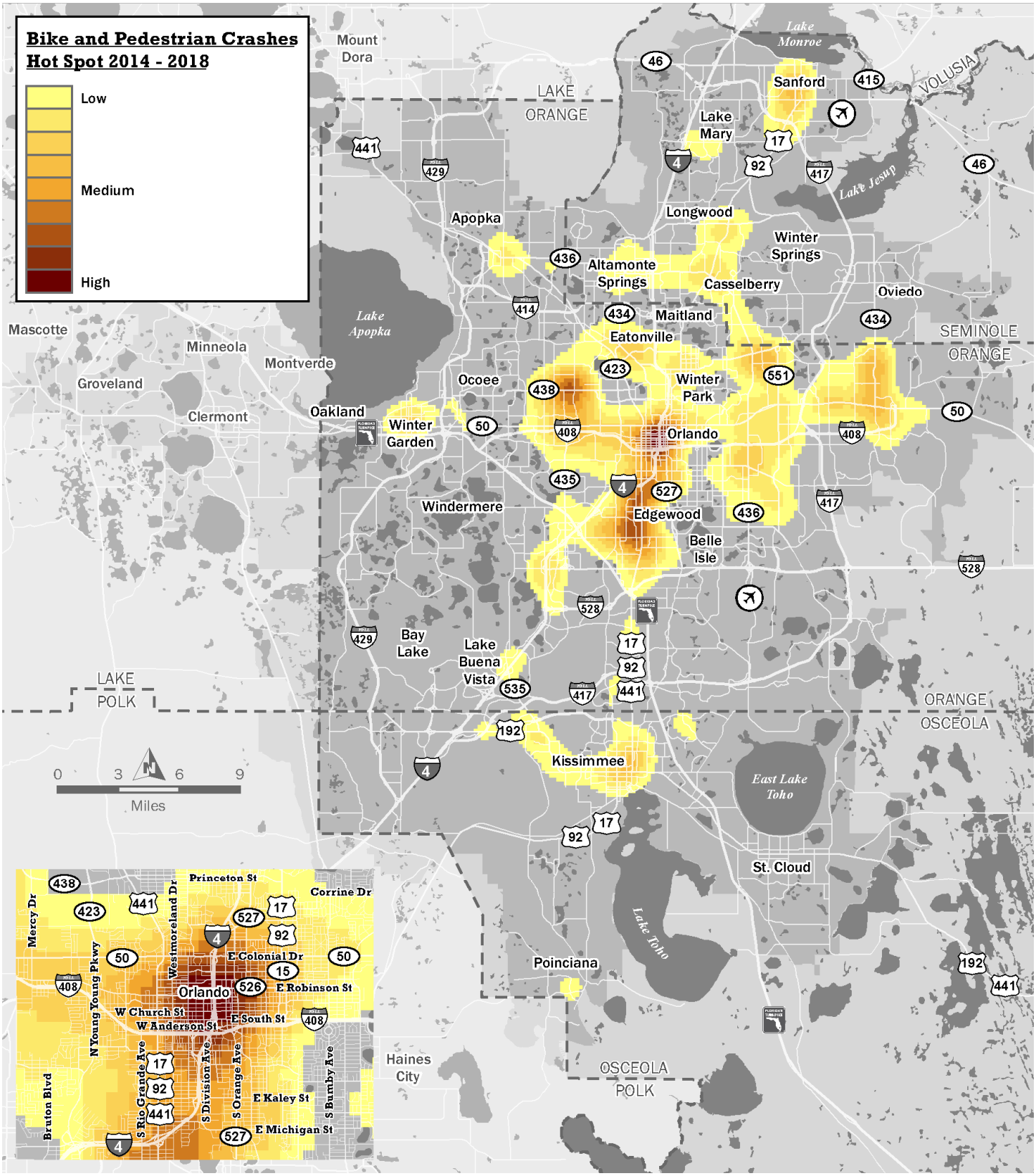


## Figure 4.48 | Transit Ridership




Data Source: LYNX 2017, SunRail 2017

## Figure 4.49 | Bicycle and Pedestrian Crashes 2014 - 2018 Heat Map




Data Source: Signal 4 Analytics 2014-2018

# Freight

## Truck AADT

Truck AADT is similar to vehicle AADT in how it is calculated. Figure 4.50 shows the truck AADT on the region's main roadways. A review of the data shows the importance of key corridors in the movement of goods. Figure 4.51 shows the percentage of daily traffic on each state roadway that is truck (cargo-carrying commercial vehicle) traffic. The data shows that some of the collector and arterial traffic can carry a higher percentage of trucks when they are located in areas of high freight related land uses.

## Truck Bottlenecks

A truck bottleneck is a segment of highway identified by a state DOT that implements constraints to affect freight mobility and reliability. The most recent truck bottleneck data used by FDOT is sourced from the FHWA National Performance Measurement Research DataSet (2018) and is referenced in Figure 4.52. Truck bottlenecks are caused by truck restrictions and congestion. Truck restrictions are implemented on infrastructure that delay trucks by forcing them into longer routes, move at different travel times, or carry smaller loads. Congestion causes slow truck travel speeds, generally at daily or seasonal travel peaks. Two types of bottlenecks from congestion are recurrent and non-recurrent bottlenecks.

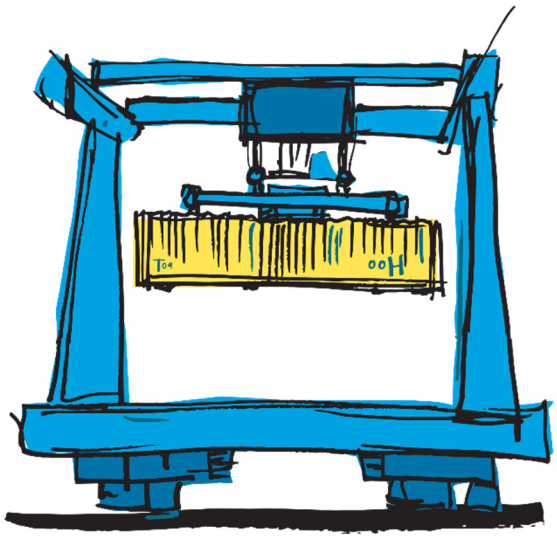
Locations where bottlenecks are usually found include highway on- and off-ramps, interchanges, highway alignment changes, narrow roadway lanes, and lane drops. Truck bottlenecks are a concern to travelers, businesses, developers, and all members of the community. Longer travel times, higher fuel consumption, additional air pollutant emissions, less accessibility to activities and jobs are all impacts caused by truck bottlenecks.

Figure 4.52 shows the top ten and top 100 truck bottleneck locations in the region. These areas are of concern to residents, travelers, and businesses as population, tourism, and employment continue to grow.

## Freight Analysis Framework

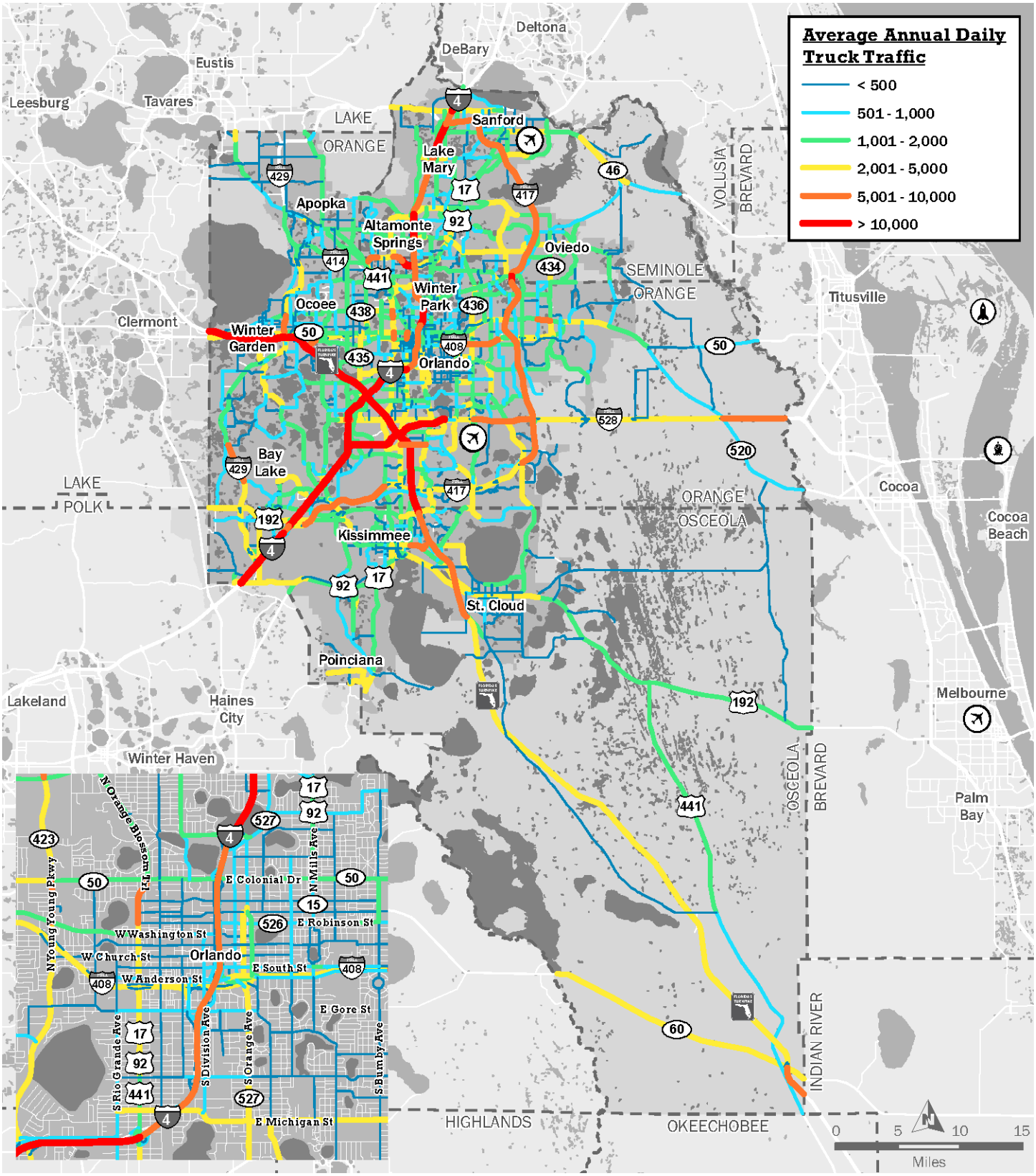
The Freight Analysis Framework (FAF) provides estimates for tonnage (in thousand tons), value, and ton-miles of freight by origin and destination regions, commodity type, and mode. FAF was created by the Bureau of Transportation Statistics (BTS) and the Federal Highway Administration (FHWA). The purpose of FAF is to integrate data to create a comprehensive picture of freight movement from all modes of transportation across different states and metropolitan areas.

Figure 4.53 shows the tonnages of freight that travel throughout the region. Understanding how much freight comes in and out of the region today can aid in preparations for freight travel in the future.



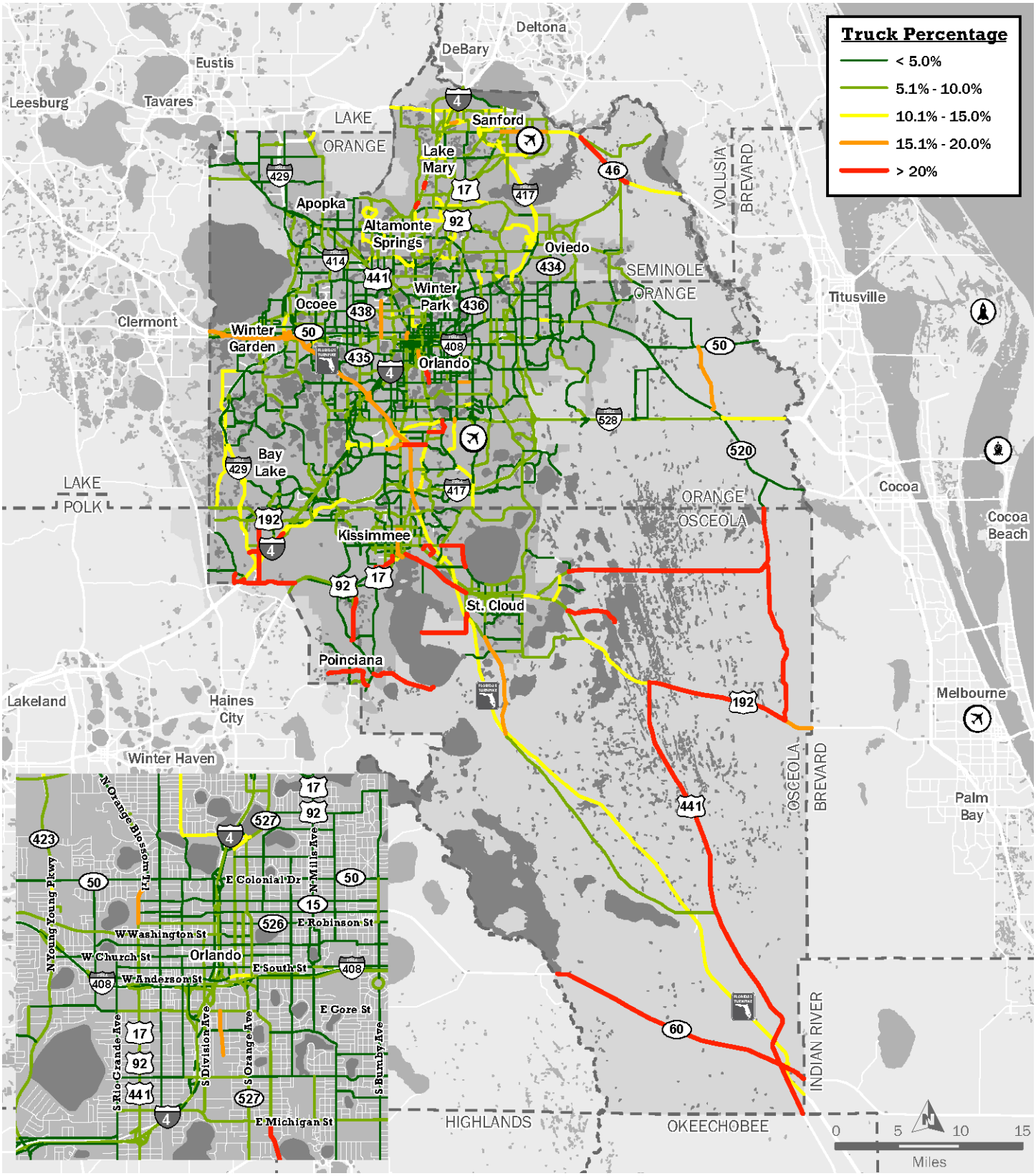


## Figure 4.50 | Truck AADT



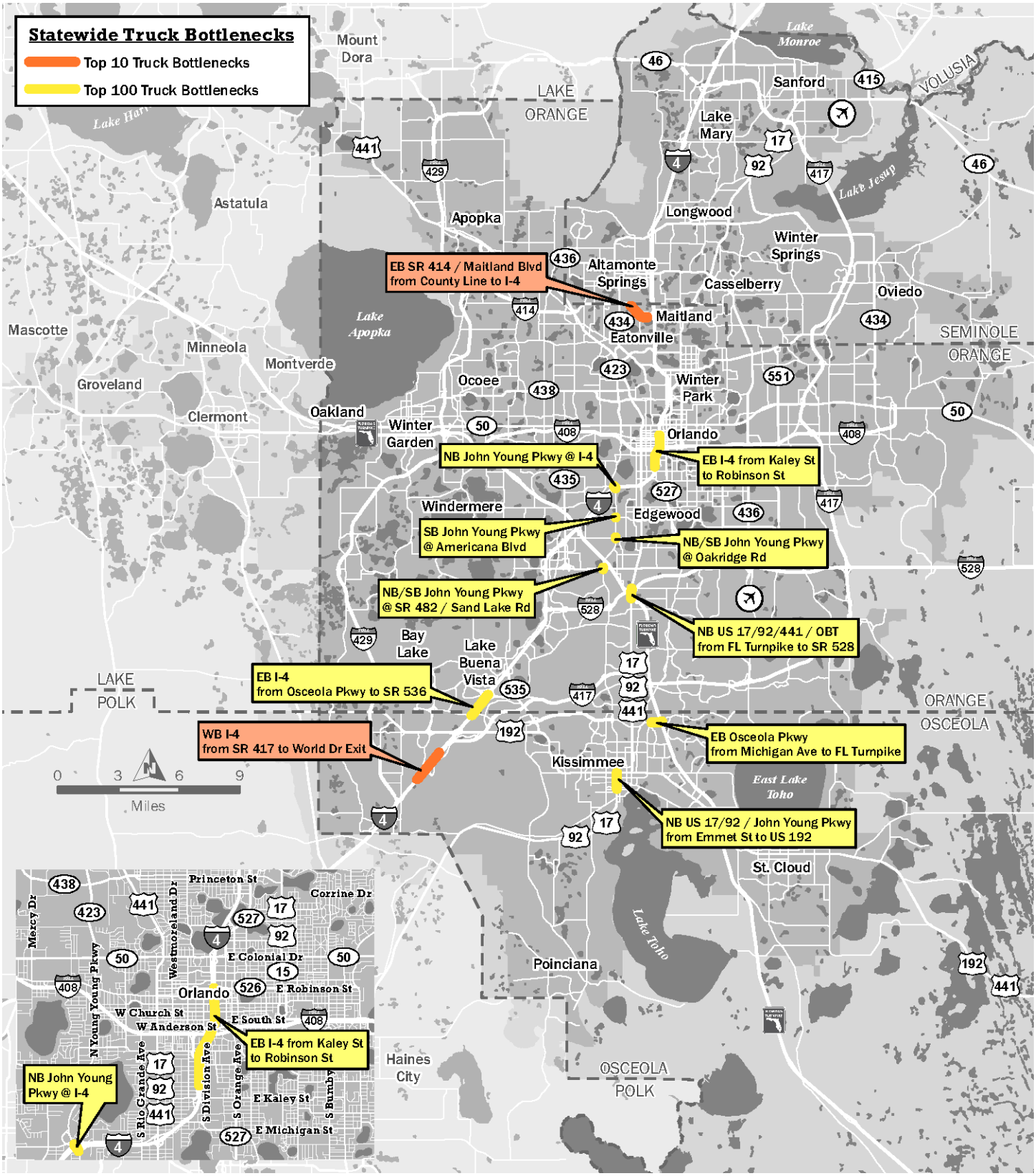

Data Source: FDOT Florida Traffic Online 2019

## Figure 4.51 | Truck Percentage



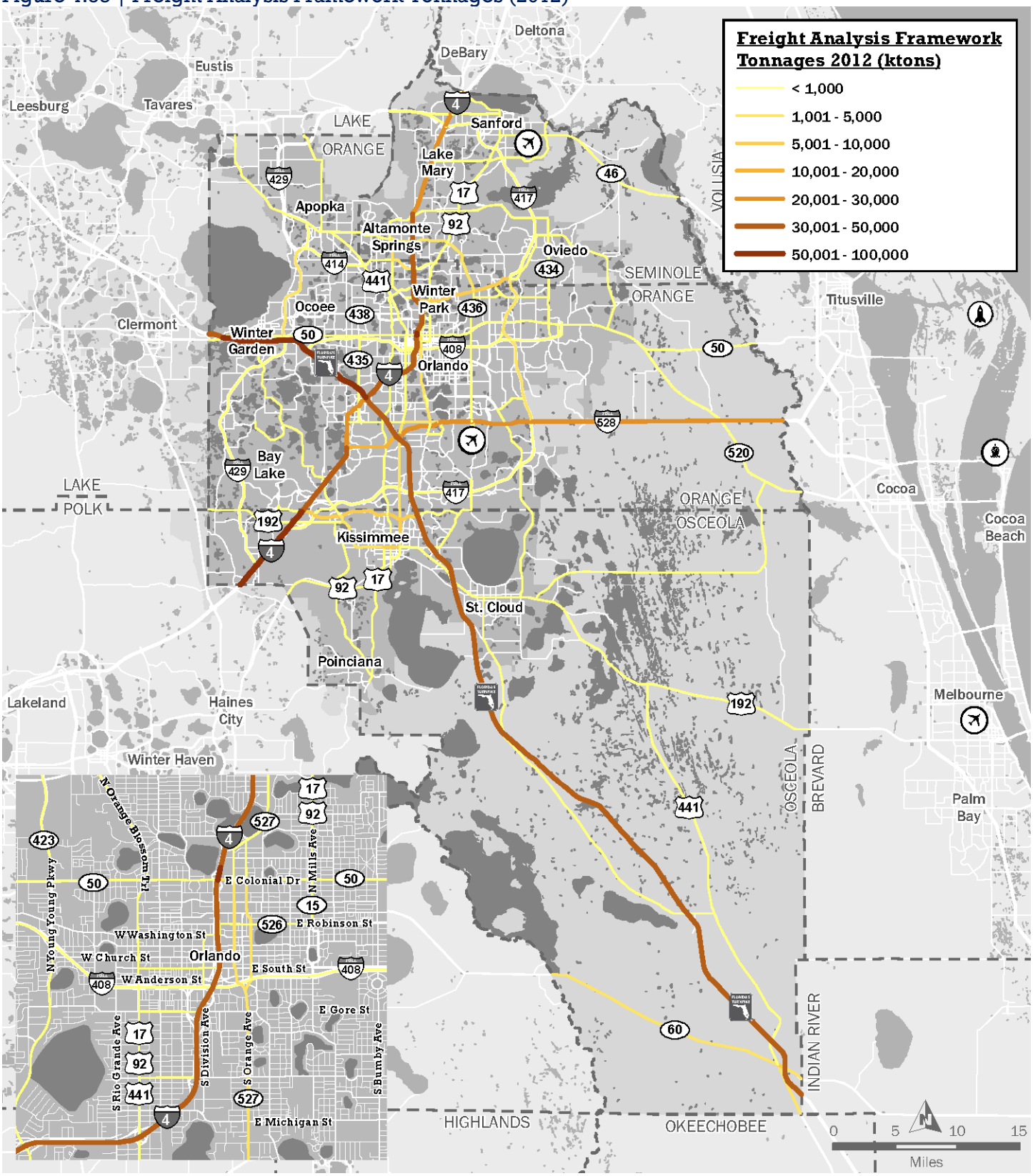

Data Source: FDOT Florida Traffic Online 2019

## Figure 4.52 | Truck Bottlenecks




Data Source: FHWA National Performance Measurement Research DataSet 2018

## Figure 4.53 | Freight Analysis Framework Tonnages (2012)




Data Source: FHWA 2012

# Base Year Conditions

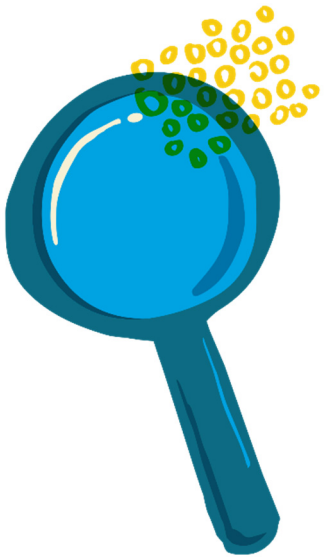
Table 4.4 below provides summary statistics for the different key characteristics of the region's conditions both in the base year of 2015, as well as the corresponding values for a more recent year, such as 2018 or 2017, as per available data. It is important to clearly document and establish a base year, as that will be the true comparison for the future year forecasts and alternatives. The current or more recent year information has been helpful in understanding key trends that have happened since 2015 and are sure to influence future forecasts.

### Table 4.4 | Base Year (2015) Conditions Summary

| Variable | 2015 | Most Recent Year of Data Available |
|---|---|---|
| ***Population*** | | |
| Total Population | 2,062,463 | 2,216,467 |
| Persons 65 years and over | 12.1% | 12.7% |
| Population Density (persons per square mile) | 812 | 853 |
| Households | 678,917 | 709,581 |
| Persons per Household | 3.0 | 3.1 |
| Housing Units | 840,264 | 876,026 |
| Poverty (percentage below poverty line) | 15.4% | 14.3% |
| ***Employment & Income*** | | |
| Total Employment | 1,372,874 | 1,477,432 |
| Unemployment Rate | 5.1% | 3.2% |
| Income per Capita | $39,546 | $41,630 |
| ***Education*** | | |
| Percentage of high school graduates or higher | 90% | 90% |
| Percentage of Bachelor's Degree or higher | 31% | 33% |
| ***Industry*** | | |
| Total Visitors | 66,000,000 | 75,000,000 |
| Hotel and Motel Units | 116,926 | 120,849 |
| ***Transportation*** | | |
| Vehicle Miles Traveled (Daily) | 58,247,571 | 65,362,121 |
| Registered Vehicles | 1,404,446 | 1,700,218 |
| Licensed Drivers | 1,520,208 | 1,706,714 |
| Gasoline Consumption (gallons) | 985,275,672 | 1,081,534,818 |
| MCO Enplanements | 18,827,098 | 23,382,273 |
| SFA Enplanements | 1,227,803 | 1,531,881 |
| Port Canaveral Cruise Passengers | 4,168,666 | 4,841,003 |
| Port Canaveral Cargo Tonnage | 4,148,243 | 6,417,126 |



# Moving Forward



The 2045 MTP puts the user at the forefront as we plan for the future. This technical series fulfills a critical element in the 2045 MTP's development – establishing where and who we are as a region today. The existing conditions established in this document will guide subsequent planning and analysis efforts throughout the 2045 Plan's development and implementation.

## Future Land Use Forecast - 2045

The MTP team will be working with FDOT and local governments in partnership to establish the anticipated future year land use forecast. This information is critical in the development of regional travel demand forecasts, and provides a guide to future development throughout the region.

## Baseline Conditions for Scenario Planning

In order to develop a guiding vision for the growth of our region, we will use the baseline conditions of our region as described in this report to best establish and understand our region's status and needs. The scenario planning approach will provide a framework for developing a shared vision for the future by testing alternatives, interpreting the results, and extensively involving stakeholders, including the public, business community, and elected officials. Scenario planning uses data, metrics, and forecasting tools to estimate and evaluate various future scenarios based on their ability to maximize system performance and support the achievement of the region's goals.

## Multimodal Needs Assessment

Our growing region will continue to develop in ways to support the health and prosperity of our stakeholders, and the development of the 2045 MTP will include a multimodal needs assessment to plan solutions that support multiple facets of our community. Multimodal analyses focus on alternate forms of transportation other than the personal vehicle, as there are many situations where a person may choose to walk, bike, or take transit to their destinations, no matter if you're traveling for work, pleasure, or visiting our region to experience all that it has to offer.

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