2050 Metropolitan Transportation Plan

Technical Report | Existing Conditions and Area Profile

August 22, 2025

FINAL

What is in this document?

This is a technical report intended to supplement the 2050 Metropolitan Transportation Plan's (MTP) Chapter 3 on Existing Conditions, Area Profile, and Travel Patterns. This technical 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 and transportation needs assessments.

Legal Information

The preparation of this report has been financed in part through grants from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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FIGURES

1 Introduction

MetroPlan Orlando is the designated Metropolitan Planning Organization (MPO) for the Central Florida region, shown in Figure 1. The planning area includes Orange, Osceola, and Seminole 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 2050 Metropolitan Transportation Plan (2050 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 plays an important role in the 2050 MTP by providing a foundation of data specific to the region. This document is organized into three segments, each providing a key building block in the 2050 Plan's foundation.

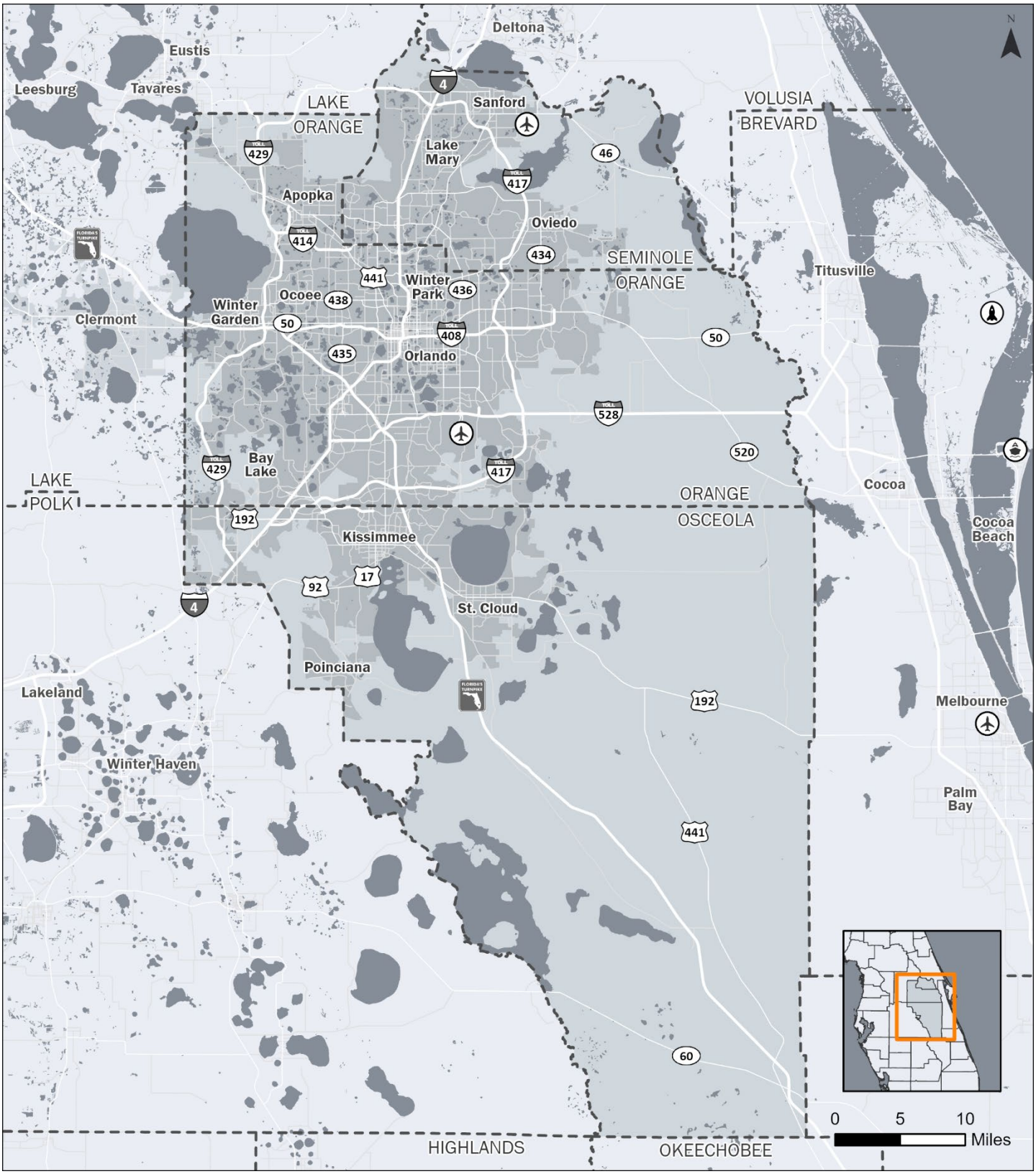
PART 1 Introduction

PART 2 Tracking Trends

PART 3 Area Profile

This technical report begins with a review of major milestones from years past. Numerous transportation trends are then documented with the comparisons from five years ago to today (using baseline data from 2022). Next, 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.

Figure 1 | MetroPlan Orlando Coverage Area



Sources: FDOT, FGDL, 2023

1.1 LEARNING FROM THE PAST

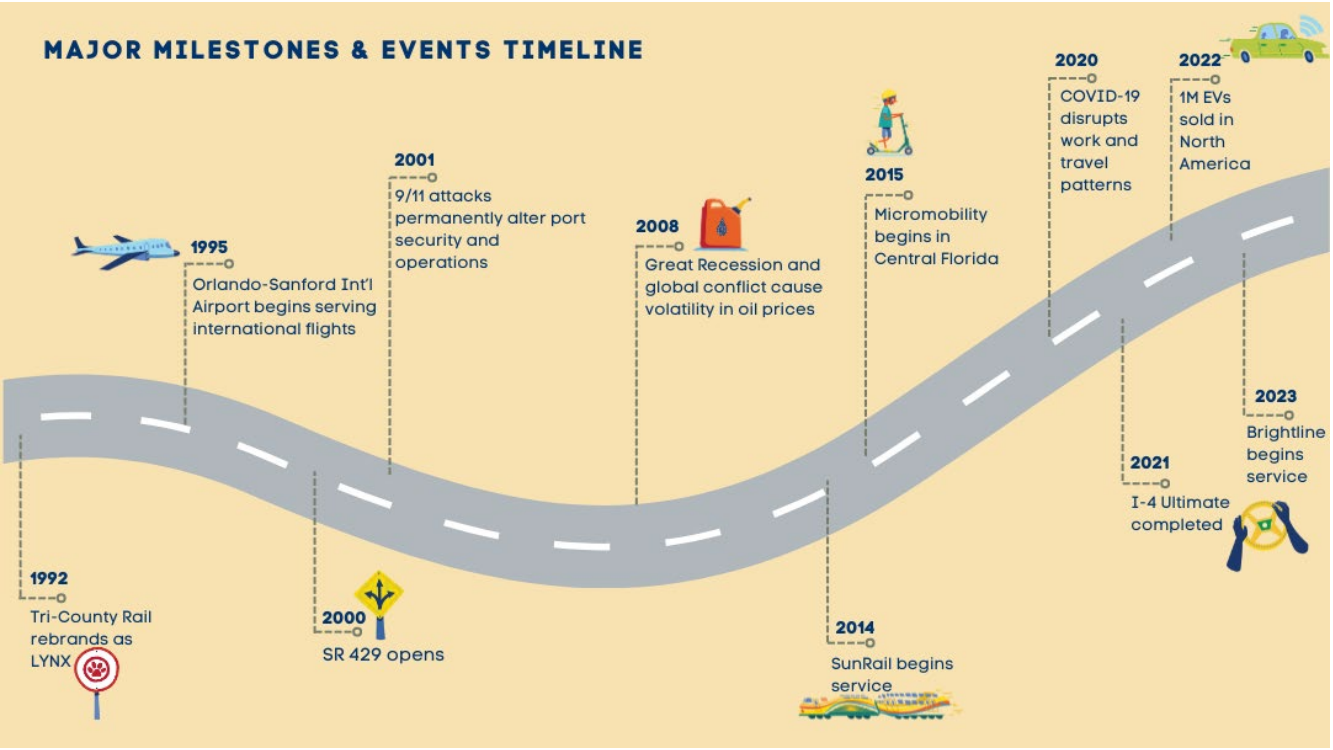
Many major milestones have shaped the Central Florida region from 1990 to today. The Great Recession and COVID-19 are now firmly in the rear-view mirror; and Central Florida, like other metropolitan areas around the southern U.S., is experiencing rapid population growth and a resurgence in travel and tourism. With the growing accessibility of fast broadband speeds, improved cellular and social networks, and accessibility to smartphones, personal technology is rapidly transforming how people travel, shop, work, play, and even meet one another.

The Long Range Transportation Plan for 2025 was prepared in the early 2000's and envisioned a multimodal 2025. Several key projects that were visualized did get completed, including I-4 Ultimate, the completion of the Western Beltway around Orlando (S.R. 429), and passenger rail service with SunRail. 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 2025 Plan did address bicycle, pedestrian, and freight modes, but the data to build upon planning for these modes was limited. In 2023, the region is equipped with numerous data sets and mapping products that enhance MetroPlan Orlando and its partners' ability to create positive change by analyzing data.

1.2 MAJOR MILESTONES & EVENTS

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 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 2. In addition to growth, advancements in technology have had a significant impact on mobility in the region.

Figure 2 | Historic Milestones and Events



2 Tracking the Trends

Historic milestones and current situations can advise on future action with the help of accurate and detailed analysis. MetroPlan Orlando tracks numerous trends and data points relating to transportation in the region, and this section of the technical report dives into the latest available data for these trends. In addition to the information available in this section of the report, MetroPlan Orlando maintains an online Tracking the Trends program, including interactive maps and data relating to these trends. Additional information can be found online at www.MetroPlanOrlando.gov/Trends.

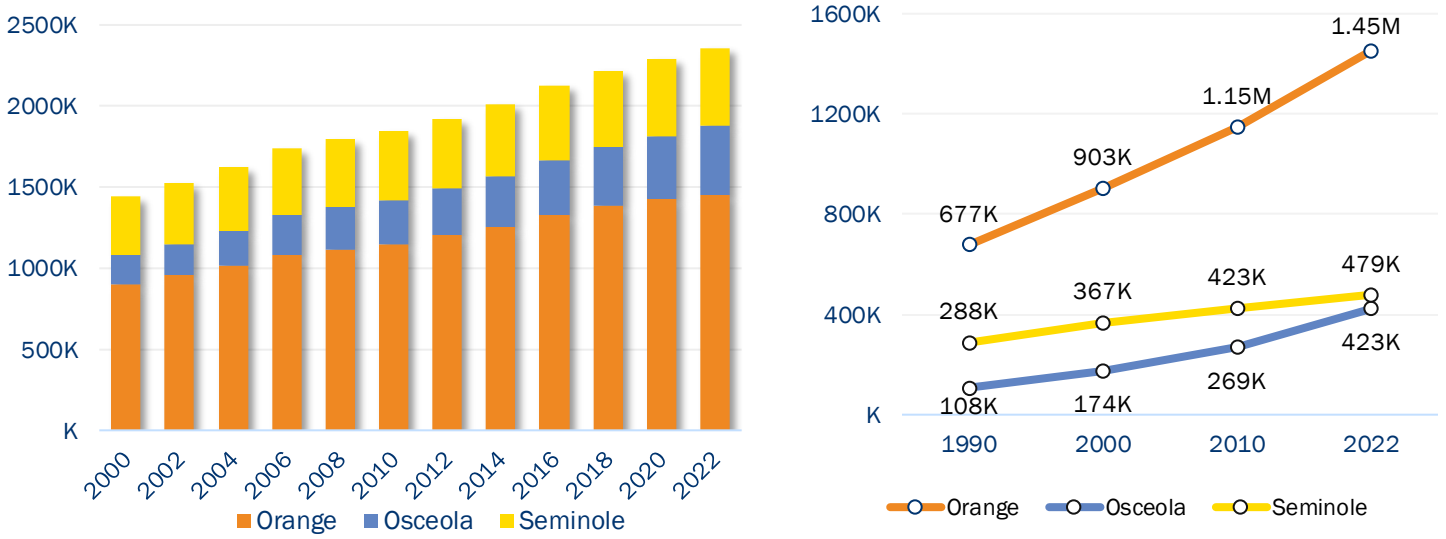
2.1 PEOPLE & PATTERNS

Population and employment are key variables driving transportation movements in the region. Historical data relating to population and employment for the three Central Florida counties were collected from the U.S. Census Bureau, the U.S. Bureau of Economic Analysis, and the U.S. Bureau of Labor Statistics.

2.1.1 POPULATION

Figure 3 graphically summarizes the population growth trend in the region and shows that the regional population grew from about 1.5 million in 2002 to nearly 2.4 million in 2022. With this growth, the Orlando-Kissimmee-Sanford Metropolitan Statistical Area (MSA) is the 22nd largest metro area in the United States as of 2022. The fastest-growing county in the region continues to be Osceola County, which grew 57% from 2010 to 2022.

Figure 3 | Population Data Series: (Left): Region Population; (Right): Long Term Population by County

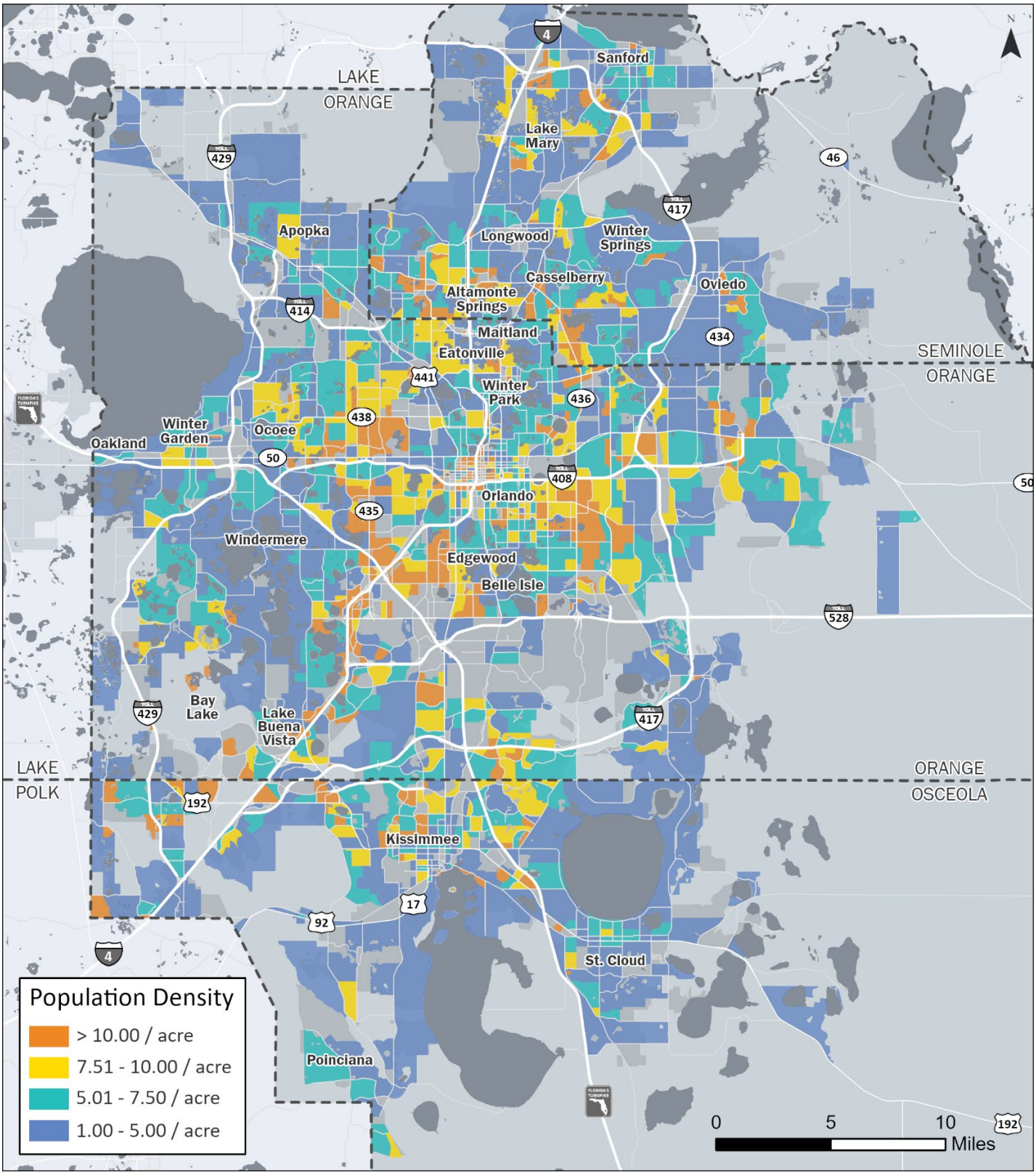


Source for both: U.S. Census Bureau, 2022

2.1.2 POPULATION DENSITY

It is also important to take a look at where this population growth occurred. Population density is the number of people per acre that live in an area. Traditionally, downtown areas and urban cores have higher densities, and rural and suburban areas have lower densities. In the three-county region, there are several urban core areas, the largest being Downtown Orlando, Sanford, and Kissimmee, with suburban areas in between. Large swaths of land, mainly used for rural and natural conservation purposes, still exist on the outskirts of the suburban areas. illustrates the population density around the three counties. Figure 4 illustrates the population density around the three counties.

Figure 4 | Population Density



Source: Central Florida Regional Planning Model Traffic Analysis Zones, 2022

2.1.3 EMPLOYMENT

Residential growth must be paired with growth in employment sectors to sustain a population. 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.

The region has been resilient to acute economic shocks, including the Great Recession of 2009 and the COVID-19 pandemic of 2020. As shown in Figure 5, since 2010, more than 400,000 jobs were created in Orange County, more than 100,000 jobs were created in Seminole County, and Osceola County nearly doubled to 197,000 jobs.

The region's employment by industry has not changed since the last MTP update, as accommodation and food services, administration, and retail trade are the top industries by job count, as seen in Figure 6. A map of employment density is depicted in Figure 7. This map shows that job density is spread throughout the region.

Figure 5 | Long-Term Regional Employment by County

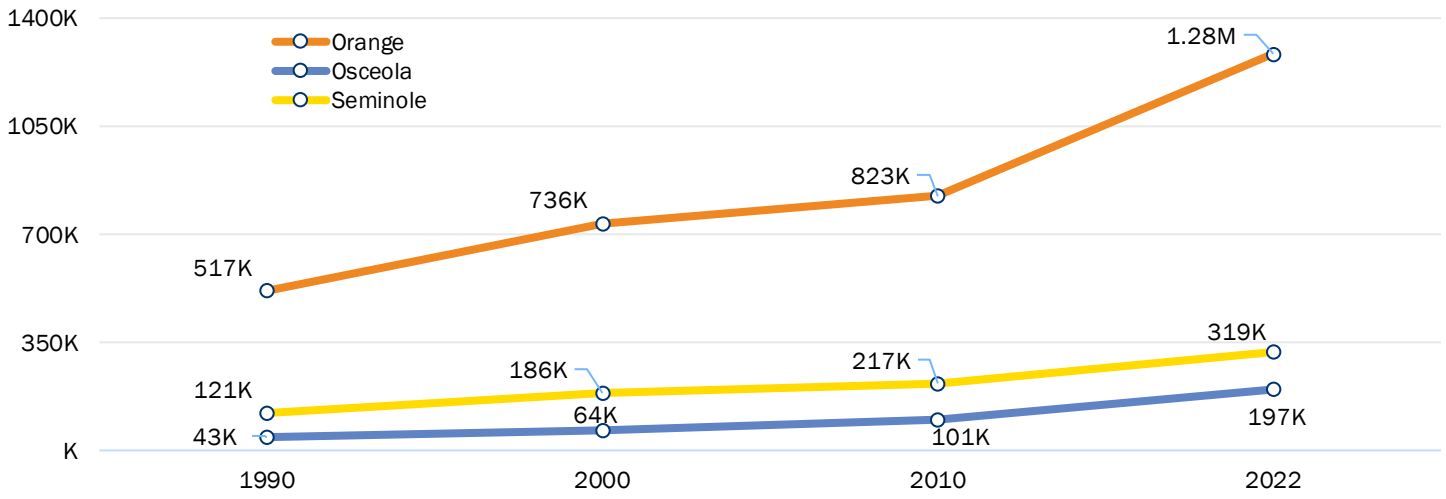
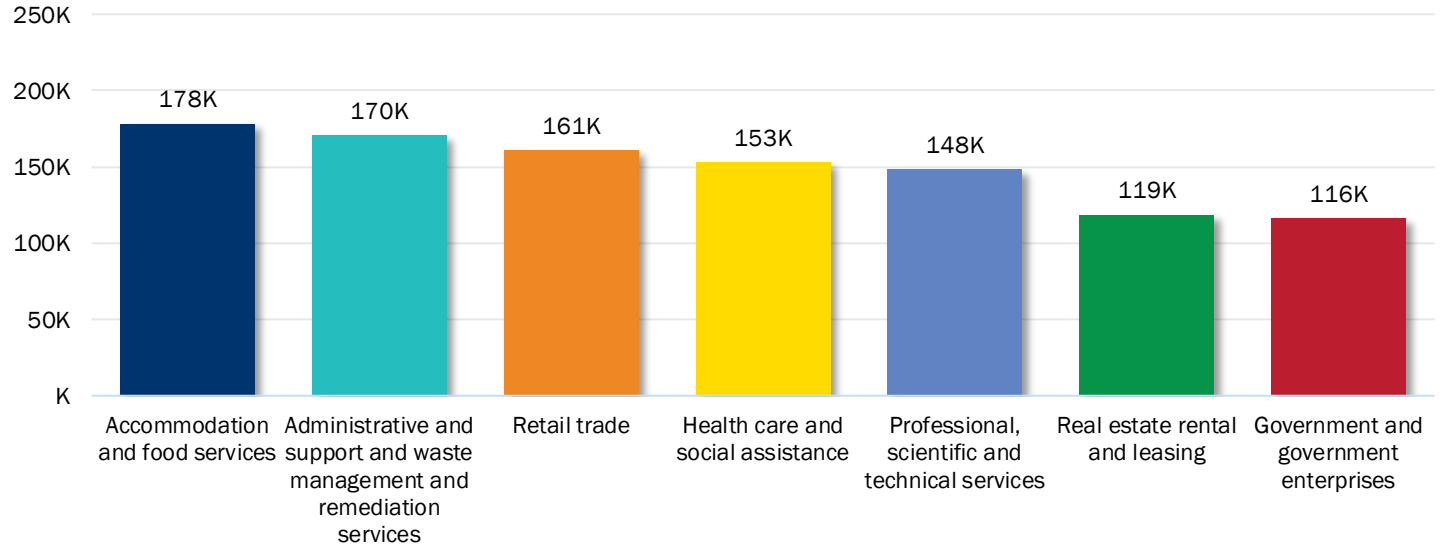
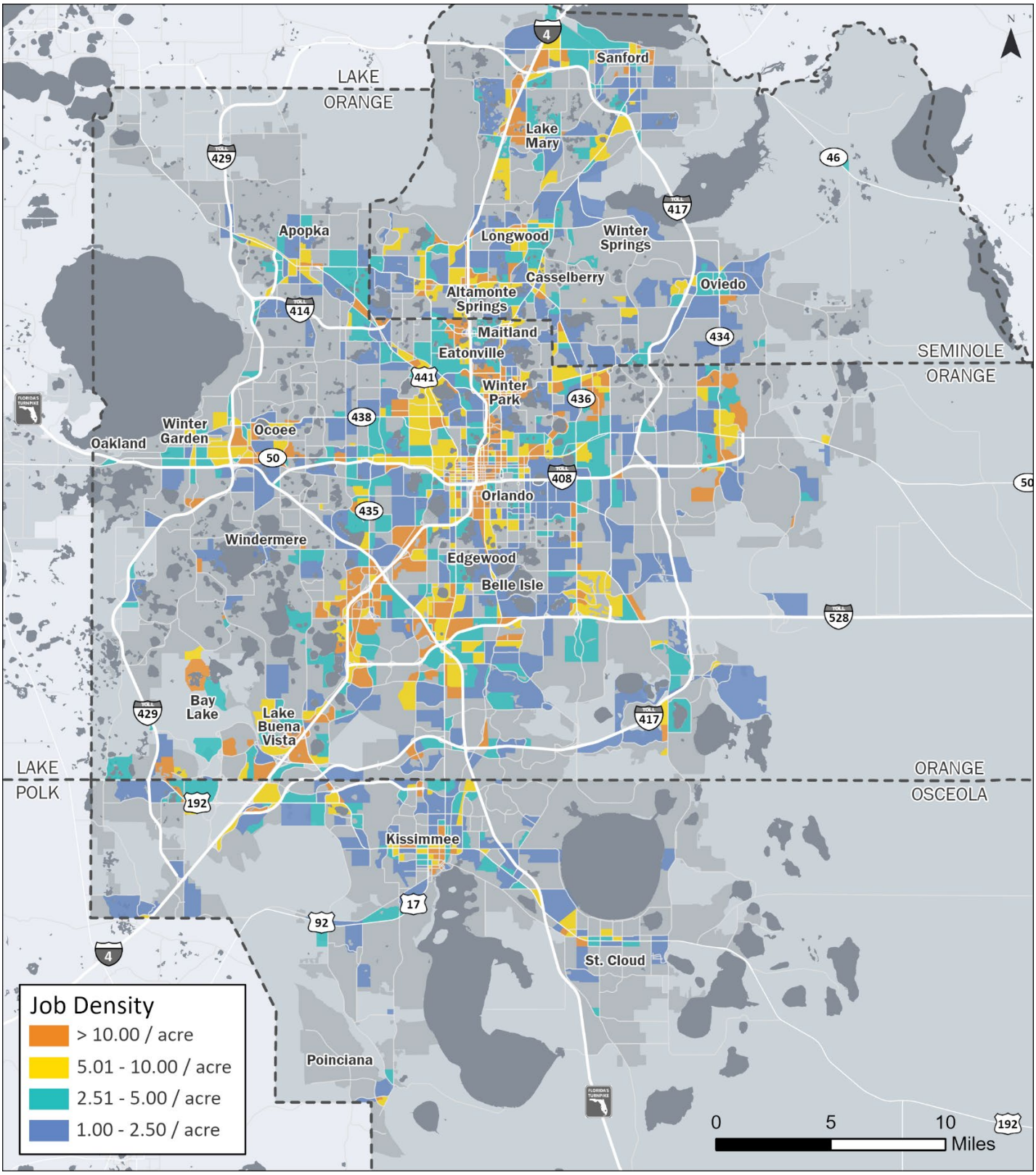


Figure 6 | Regional Employment by Industry, 3-County Area



Source for both figures: U.S. Bureau of Economic Analysis, 2022

Figure 7 | Employment Density



Source: Central Florida Regional Planning Model Traffic Analysis Zones, 2022

2.1.4 UNEMPLOYMENT

Trends related to unemployment throughout the region are summarized in Figure 8 and Figure 9. Average levels of unemployment in the region were very high in 2010 as a result of the Great Recession. After 2010, unemployment rates gradually decreased to below 4%, but a second peak occurred in 2020 as a result of the COVID-19 pandemic. Since 2020, unemployment has sharply decreased to levels below 4%.

Figure 8 | Long-Term Unemployment Rate, 1990-2022

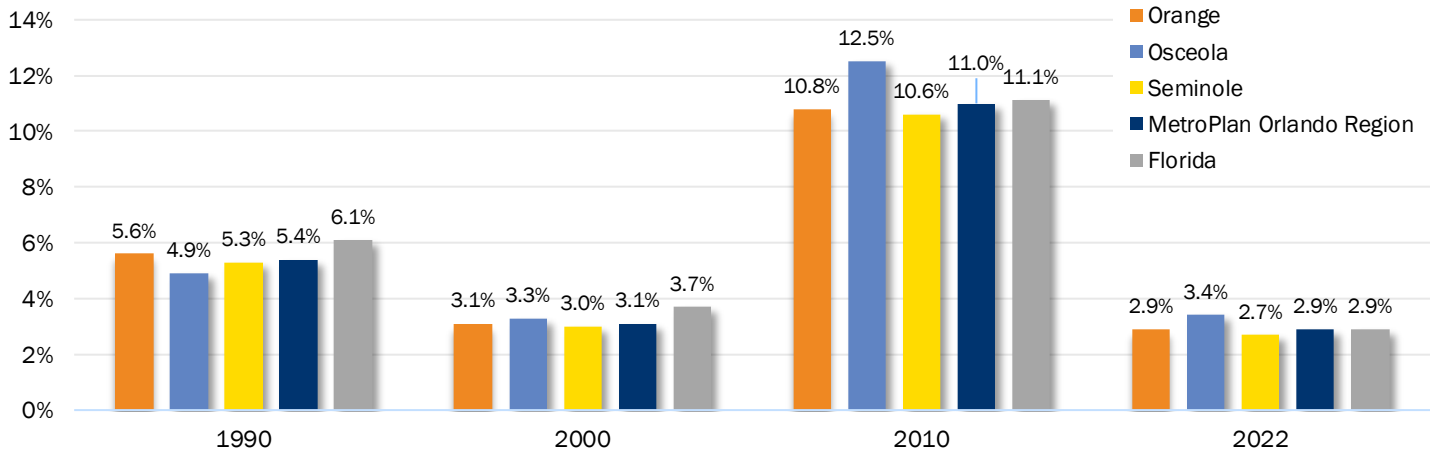
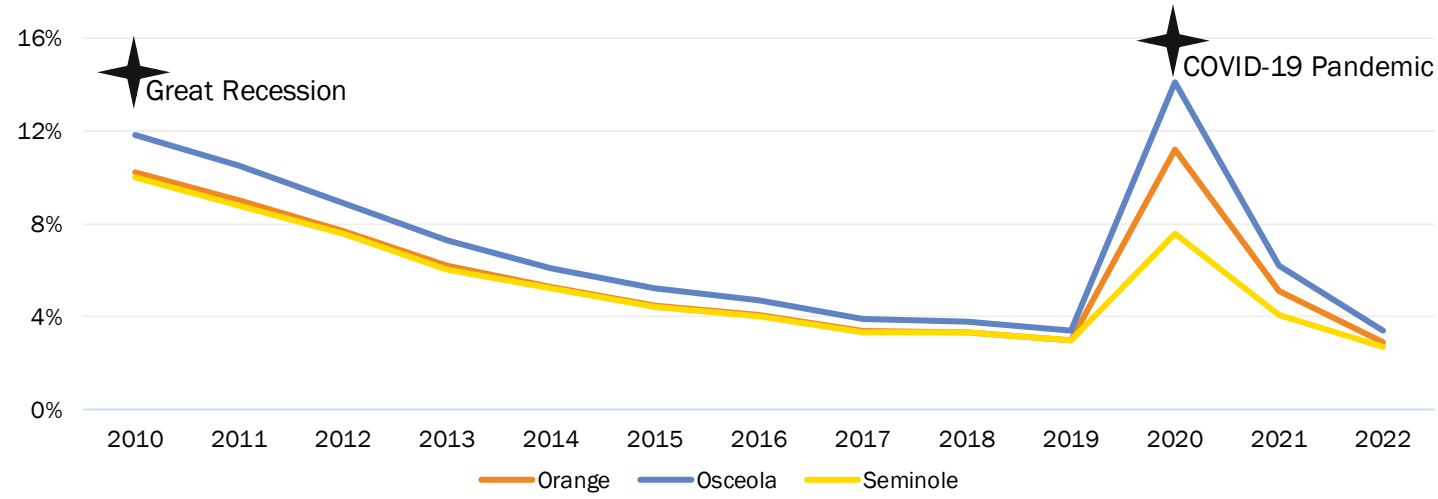


Figure 9 | Unemployment Rate by County and Year, 2010-2022

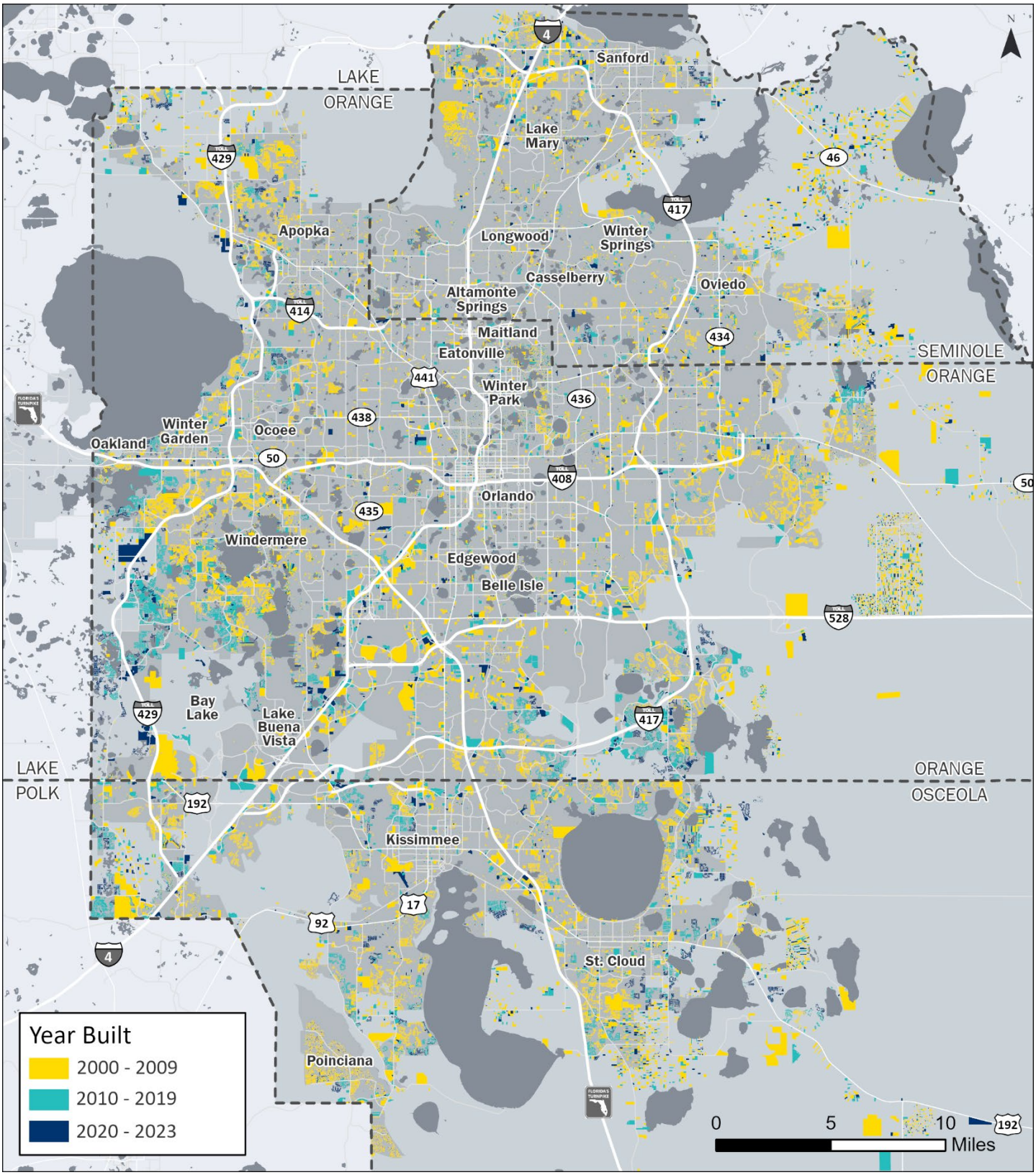


Source: U.S. Bureau of Labor Statistics, 2022 (Both Figures)

2.1.5 DEVELOPMENT PATTERNS

Population, employment, and unemployment are key components of measuring growth. To get the most overarching view of where growth has occurred in the region, it is important to look at both residential and non-residential development, like businesses, grocery stores, warehouses, office buildings, and so forth. On the following page, Figure 10 shows where all new developments, residential and non-residential, were built since 2000. Infill development, buildings constructed or renovated in already developed areas, make up a good portion of the region, but the figure makes it clear that a majority of the growth in the region has occurred at the suburban outskirts.

Figure 10 | Parcels Built from 2000 to 2023



Source: County Parcel Files, 2024

2.2 SAFETY & SECURITY

The region has continued to grow in terms of population and vehicle miles traveled over the past decade, and crash rates have increased similarly over time. Over the last five years, the total number of crashes, crashes resulting in property damage, traffic-related fatalities, and traffic-related serious injuries have remained somewhat consistent, with relative dips occurring in 2020 due to decreased traffic volumes as a result of the COVID-19 pandemic. Figures 11 and 12 show crash trends from 2018 through 2022.

While these charts show how safety figures have fluctuated over time, it is important to recognize that no deaths are acceptable on the region's road network. That is why MetroPlan Orlando is working has worked with every city, town, and county in the region to develop Safety Action Plans. Additional information about how safety improvements are planned in the region, please see the MetroPlan Orlando Regional Safety Action Plan, available under separate cover.

Figure 11 | Total Number of Crashes and Total Number of Crashes Causing Property Damage, 2018-2022

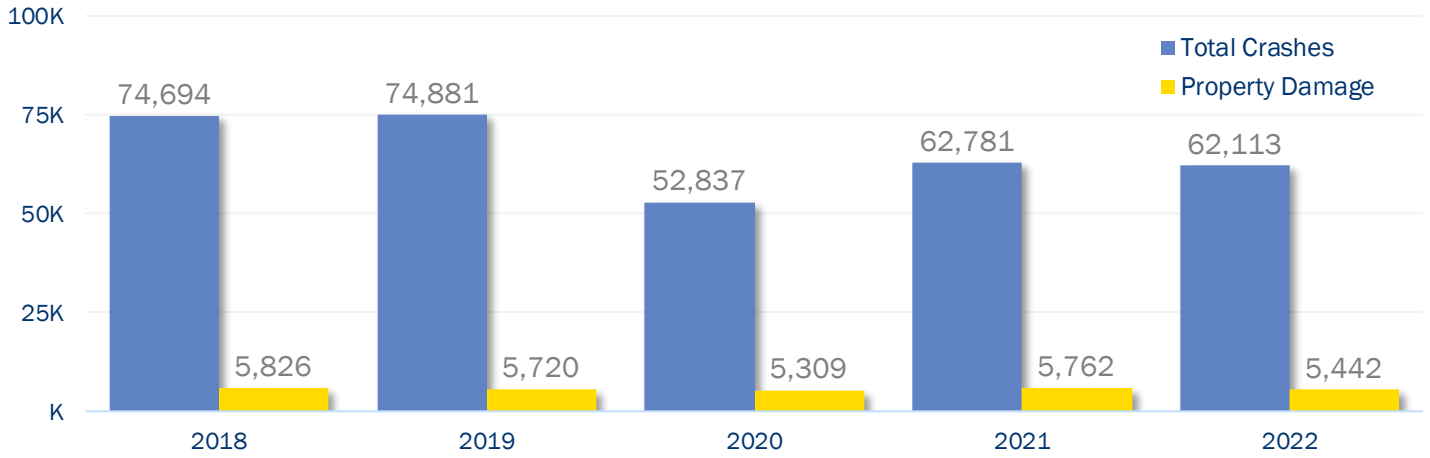
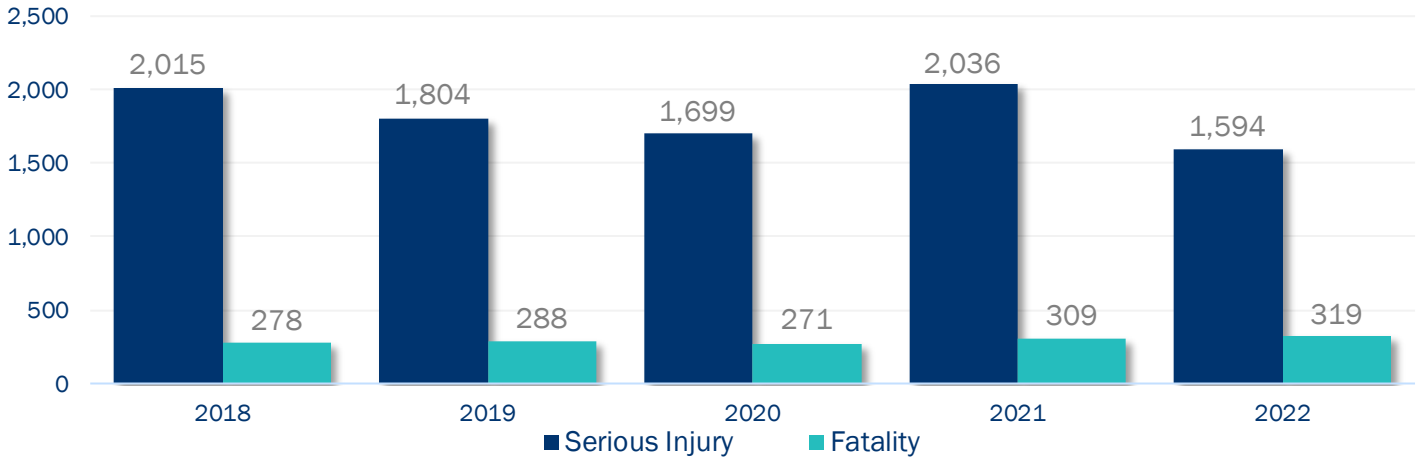


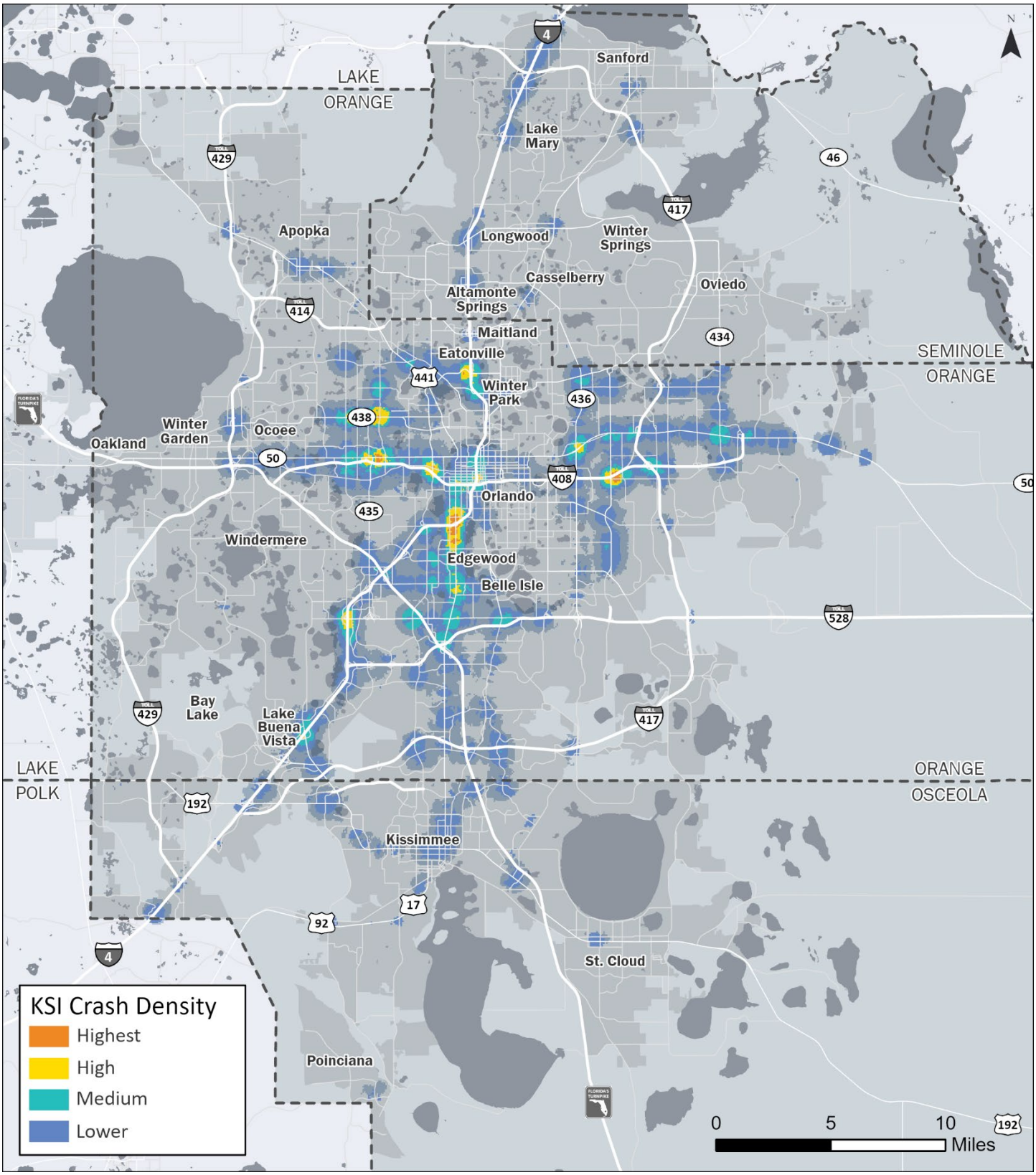
Figure 12 | Traffic-Related Fatalities and Serious Injuries, 2018-2022



Source: Signal Four Analytics, 2022

In order to capture the full picture of safety in the region, it is crucial to look at where crashes are occurring throughout the region as well. Crash hot spots where one or more person was killed or seriously injured (KSI) can be viewed in Figure 13 on the following page. From a three-county perspective, the areas with higher KSI within the region are predominantly located in Orange County along major thoroughfares, like Orange Blossom Trail (US 441), Colonial Drive (SR 50), and Sand Lake Road (SR 482).

Figure 13 | Crash Hot Spots with KSI (Killed or Seriously Injured Person), 2018-2022



Source: Signal Four Analytics, 2022

2.2.1 CRASH RATES BY ROAD FEATURE

The xGeographic Wave database and the Signal Four Analytics crash database are cross-referenced in this section to associate crash rates with road features. Roads with less than 3 lanes are differentiated between all roads and FDOT.

Figure 14 shows a correlation between total number of lanes and crash rates per centerline mile, with more crashes generally occurring where more lanes are present. Figure 15 shows a similar trend, with increased number of turn-only lanes equating to higher crash rates. Figure 16 shows the correlation between crash rates and annual average daily traffic, showing a positive correlation when normalized by lane miles.

Figure 14 | Crashes Per Lane Mile Per Year (2018-2022) –Number of Lanes (Excluding Limited Access)

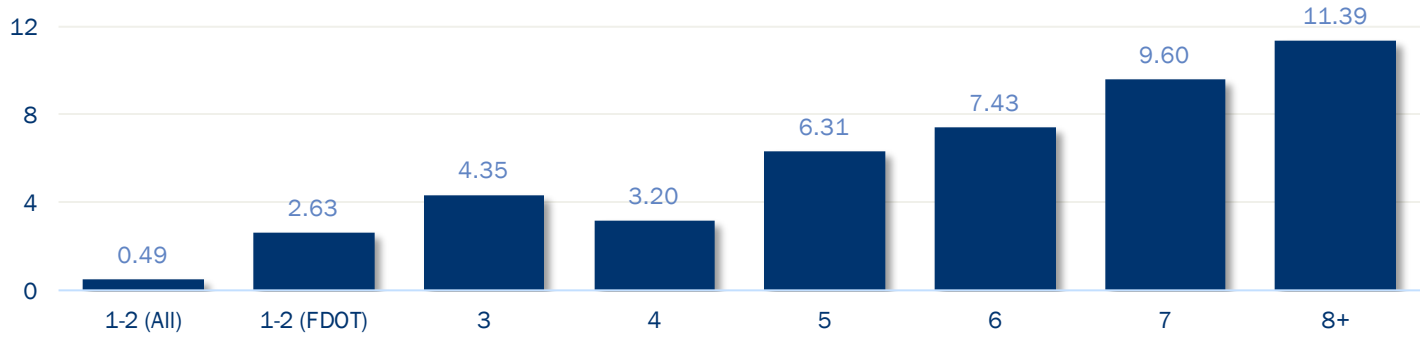


Figure 15 | Crashes Per Lane Mile Per Year (2018-2022) – Number of Turn Lanes Present

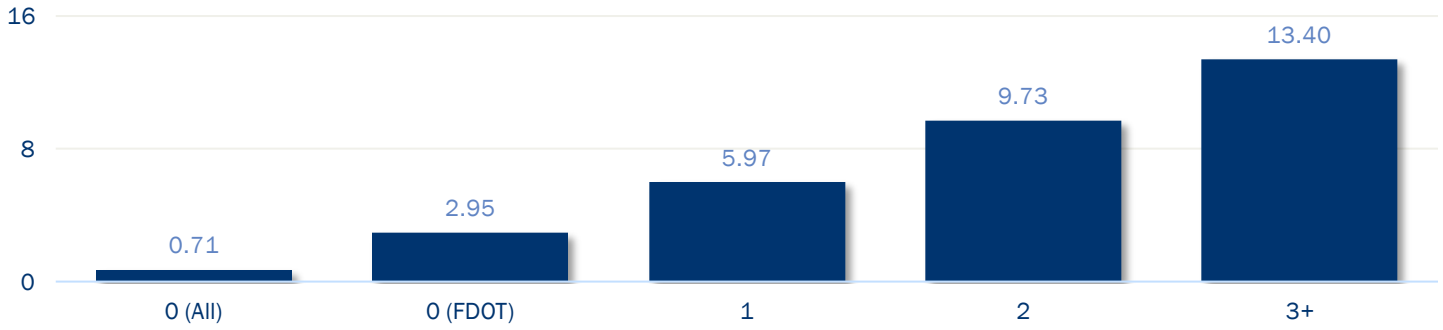
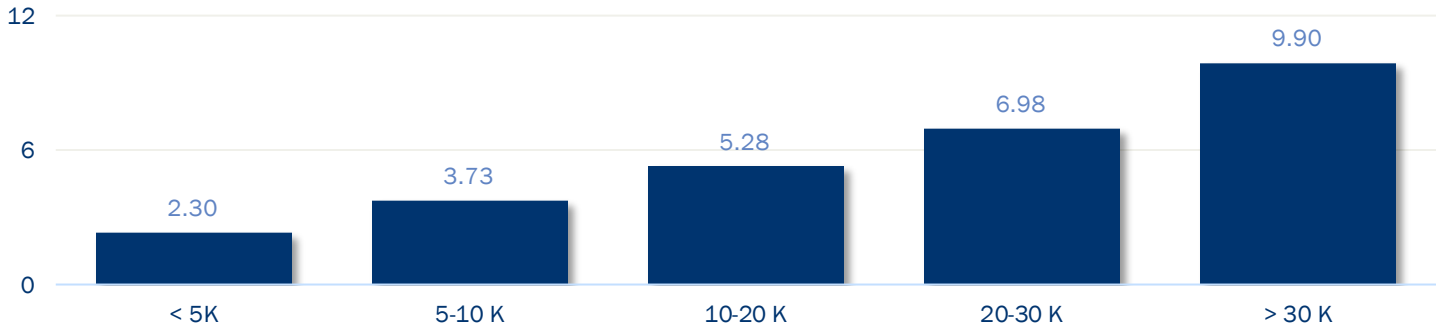


Figure 16 | Crashes Per Lane Mile Per Year (2018-2022) –Daily Traffic (Excluding Limited Access)



Source: xGeographic Wave, 2023 (Road Features); Signal Four Analytics, 2018-2022 (Crashes)

The charts on this page show crash rates per lane mile per year by posted speed limit, functional classification and context classification. Functional classification and context classification are ways of organizing roads by similar features, which is discussed in greater detail in Section 3.4 of this Technical Report.

Figure 17 shows that crash rates peak in the 40 to 45 mile per hour range and drop off drastically on roads where the speed limit is 55 miles per hour or greater, excluding limited access roads. Figure 18 shows that crash rates increase as the functional classification reaches higher tiers, as principal arterial roadways have more than three times more crashes per lane mile than minor collector roadways. Figure 19 shows that crash rates also increase as context classification becomes more urban in context, as the C6 classification has the highest rate. C6 roadways are generally located in high-activity areas such as downtowns.

Figure 17 | Crashes Per Lane Mile Per Year (2018-2022) – Posted Speed Limit (Excluding Limited Access)

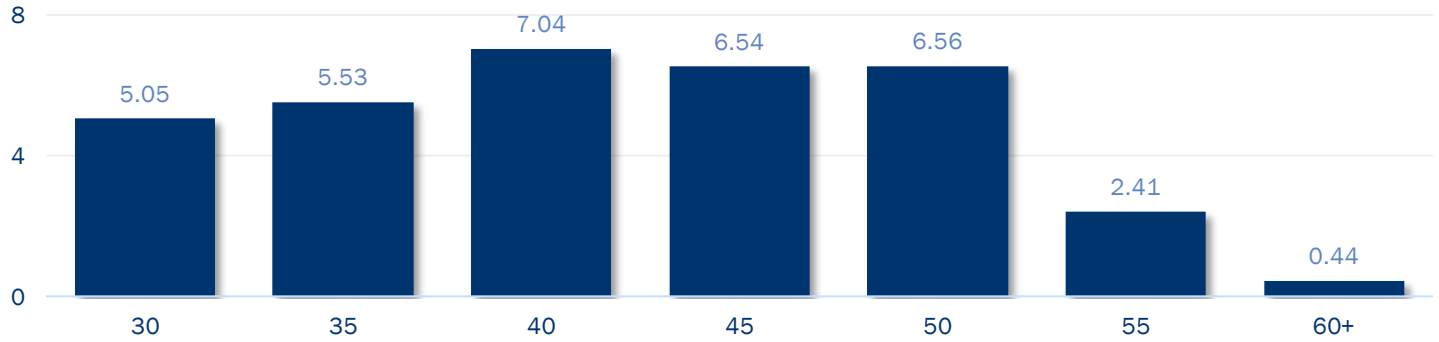


Figure 18 | Crashes Per Lane Mile Per Year (2018-2022) – Functional Class (Excluding Limited Access)

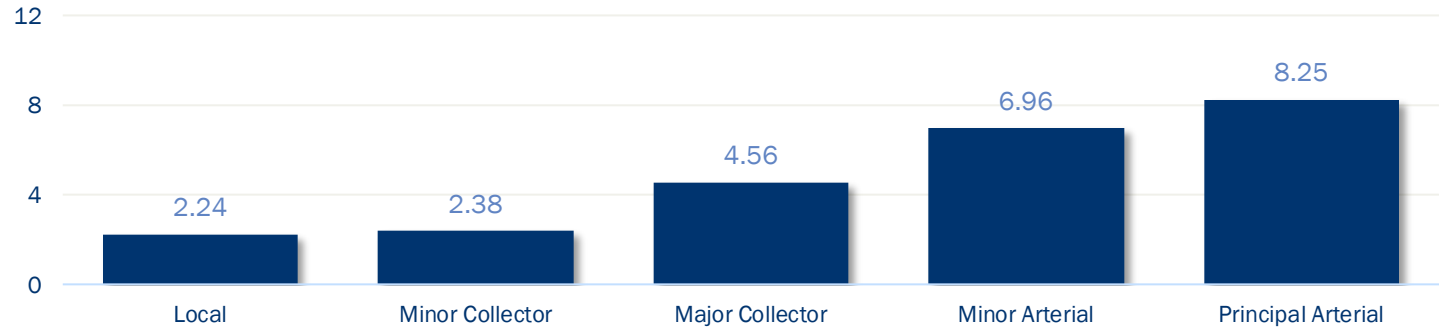
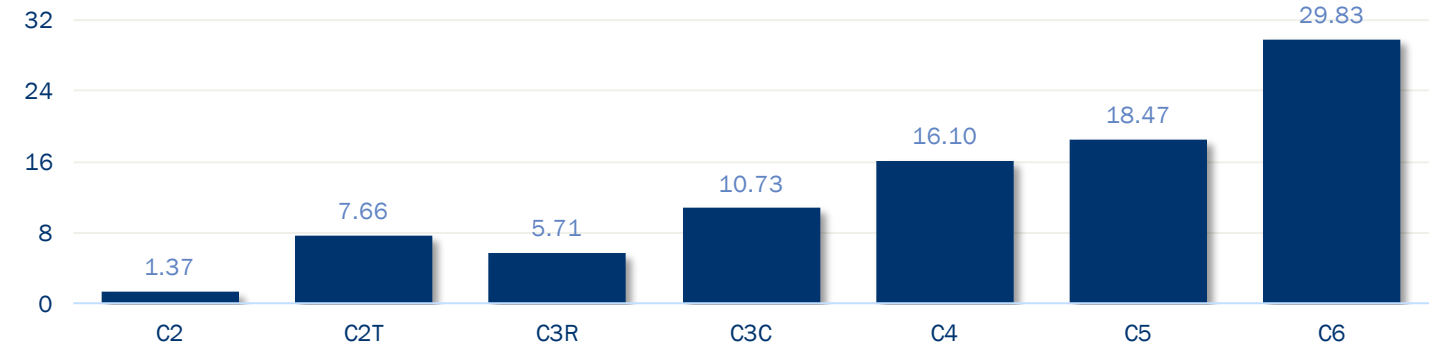


Figure 19 | Crashes Per Lane Mile Per Year (2018-2022) – Context Class



Source: xGeographic Wave, 2023 (Road Features); Signal Four Analytics, 2018-2022 (Crashes)

2.2.2 BICYCLE & PEDESTRIAN SAFETY

Bicyclists and pedestrians are vulnerable to death and serious injuries on our region's roadways, and MetroPlan Orlando has taken numerous steps to improve safety for these modes of transportation. In 2024, MetroPlan Orlando published the regional Active Transportation Plan, which created an inventory of bicycle and pedestrian assets such as trails, sidewalks, and crosswalks, and identified numerous bicycle and pedestrian safety projects for incorporation into the MTP. Figure 20 and Figure 21 below show bicycle and pedestrian crash trends from 2018 to 2022.

Figure 20 | Bicyclist Crash Trends by Severity, 2018-2022

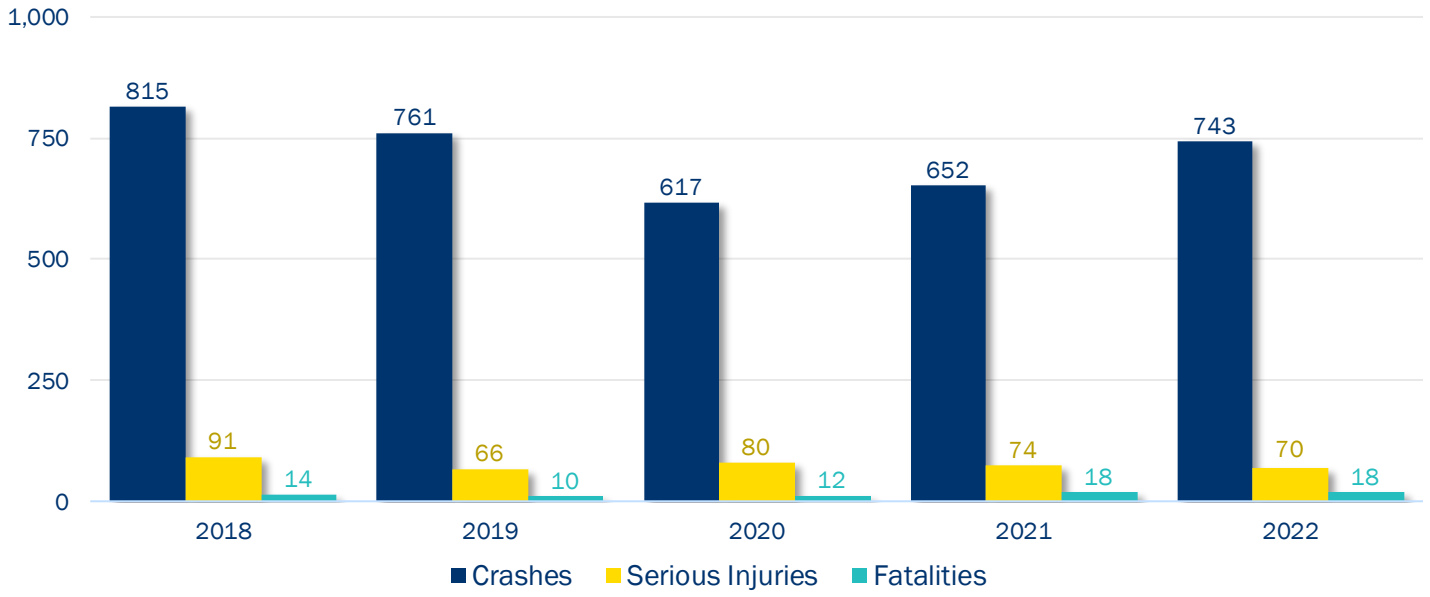
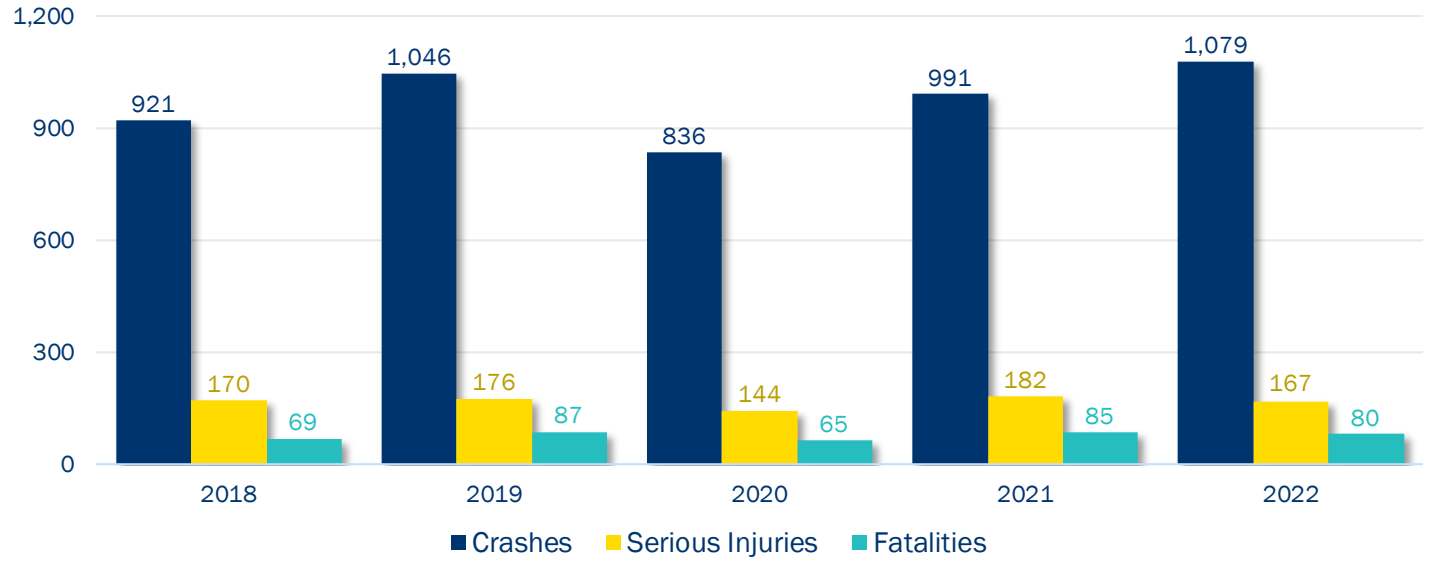


Figure 21 | Pedestrian Crash Trends by Severity, 2018-2022



Source: Signal Four Analytics, 2022

2.2.3 BICYCLE AND PEDESTRIAN CRASH RATES BY ROAD FEATURE

The xGeographic Wave database and the Signal Four Analytics crash database are cross-referenced in this section to associate crash rates with road features. Roads with less than 3 lanes are differentiated between all roads and FDOT. All statistics exclude limited access roadways.

Figure 22 shows that bicycle and pedestrian crashes become more frequent as lane counts increase, and Figure 23 shows the same correlation as the number of turn lanes present increases. Figure 24 shows that bicycle and pedestrian crash rates increase as daily traffic counts increase, with an inflection point near 20,000 daily vehicles.

Figure 22 | Bike/Ped Crashes Per Centerline Mile Per Year (2018-2022) – Total Number of Lanes

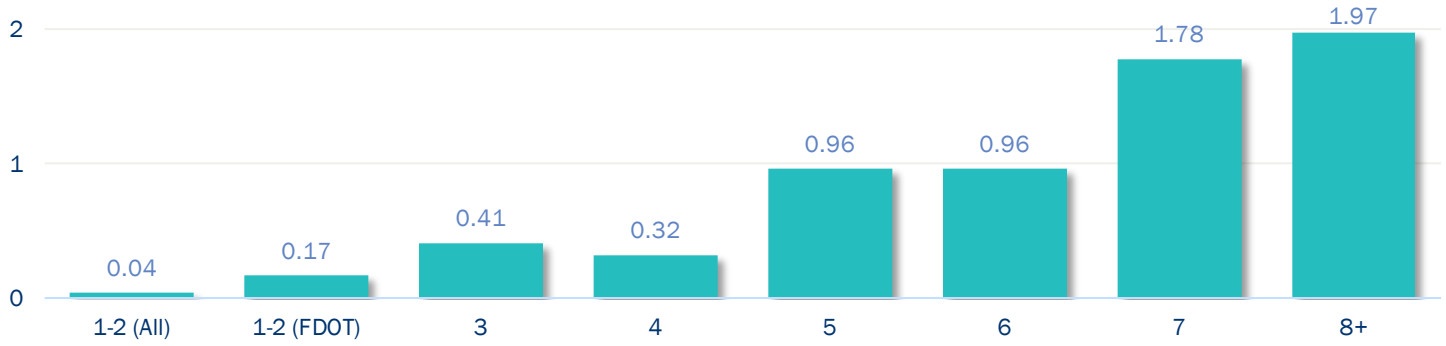


Figure 23 | Bike/Ped Crashes Per Centerline Mile Per Year (2018-2022) – Number of Turn Lanes Present

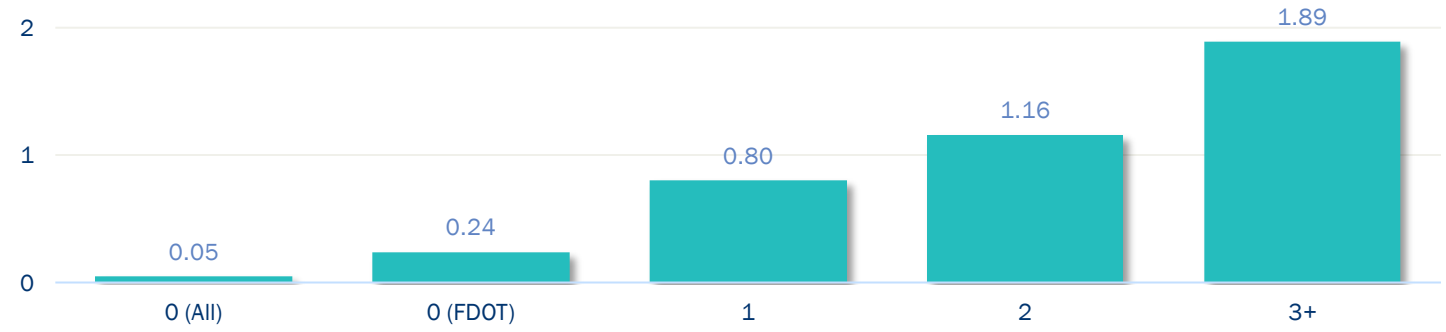
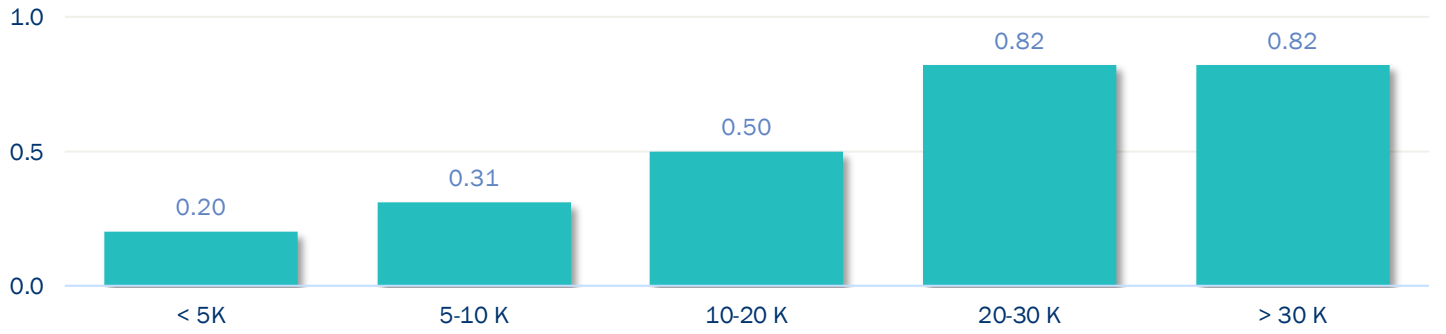


Figure 24 | Bike/Ped Crashes Per Centerline Mile Per Year (2018-2022) – Daily Traffic Counts



Source: xGeographic Wave, 2023 (Road Features); Signal Four Analytics, 2018-2022 (Crashes)

Bicycle and pedestrian crash rates were also calculated for posted speed limits, functional classification and context classification. Similar to the all-crash metric, bicycle and pedestrian crash rates peak in the 40-to-50 mile per hour range, as seen in Figure 25. Also similar to the all-crash metric are bicycle and pedestrian crash rates by functional classification, which increase as the functional classification reaches higher tiers as shown in Figure 26. Figure 27 shows that bicycle and pedestrian crash rates are somewhat variable in terms of context classification, with the highest crash rates occurring on C6 roadways and the second highest crash rates occurring on C4 roadways.

Figure 25 | Bike/Ped Crashes Per Centerline Mile Per Year (2018-2022) – Posted Speed Limit

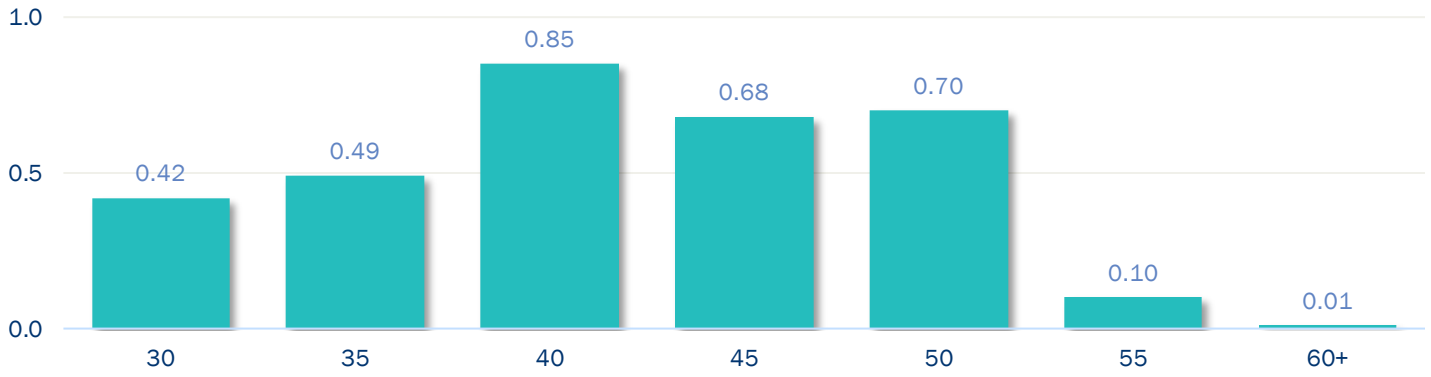


Figure 26 | Bike/Ped Crashes Per Centerline Mile Per Year (2018-2022) – Functional Classification

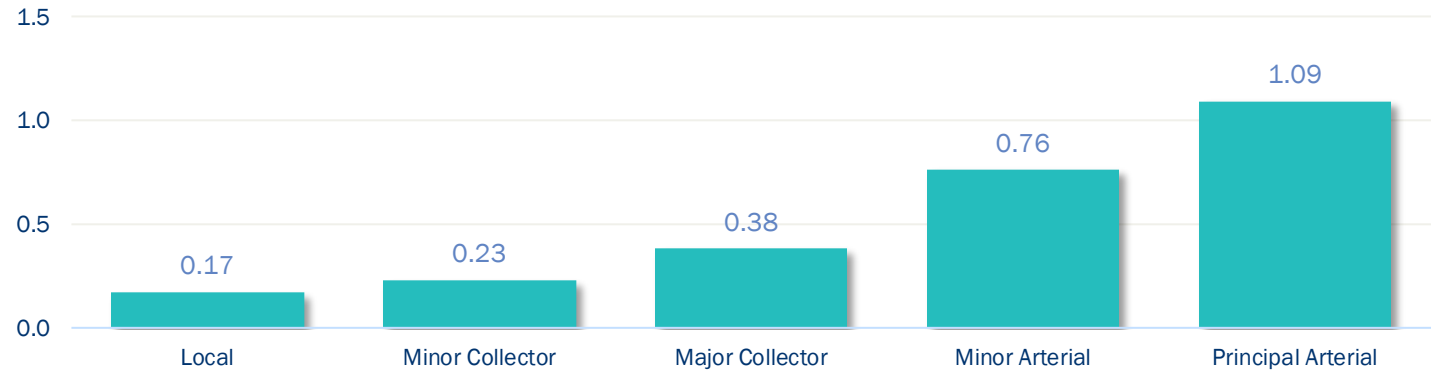
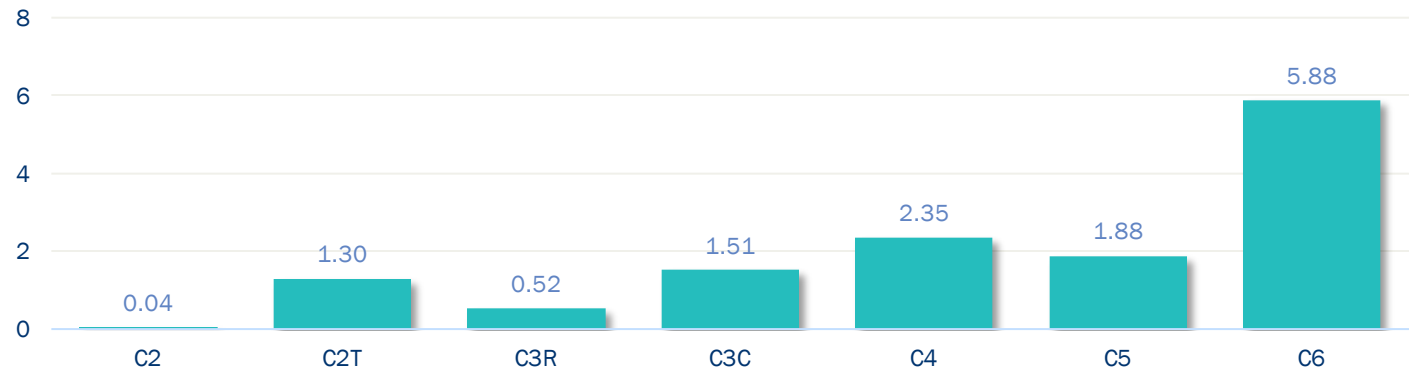
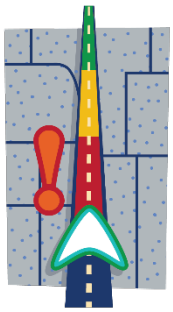


Figure 27 | Bike/Ped Crashes Per Centerline Mile Per Year (2018-2022) – Context Classification



Source: xGeographic Wave, 2023 (Road Features); Signal Four Analytics, 2018-2022 (Crashes)

2.3 RELIABILITY & PERFORMANCE



The transportation network's performance is largely a function of its reliability, which is tracked in the region through numerous data points such as vehicle miles traveled (VMT), licensed drivers, fuel consumption, transit trends, and level of travel time reliability. These metrics are analyzed in this section of the report.

2.3.1 MAJOR NETWORK OVERVIEW

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. Major thoroughfares include:

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)

An east-west facility connecting Maitland to the Apopka area in northwestern Orange County.

SR 528 (Martin B. Andersen Beachline Expressway)

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 (Spessard L. Holland East-West Expressway)

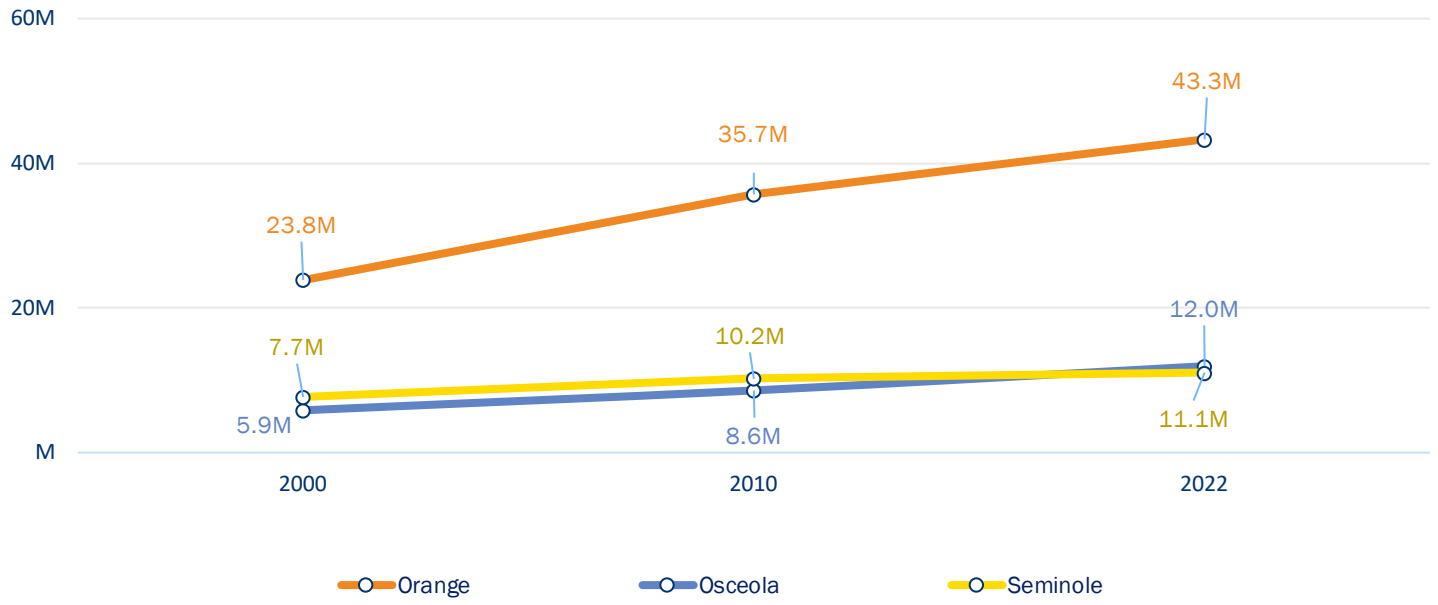
An east-west toll facility that connects Florida's Turnpike to Challenger Parkway.

2.3.2 VEHICLE MILES TRAVELED

Daily vehicle 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). 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 in the region since the year 2000. This can be seen on in Figure 28 on the following page.

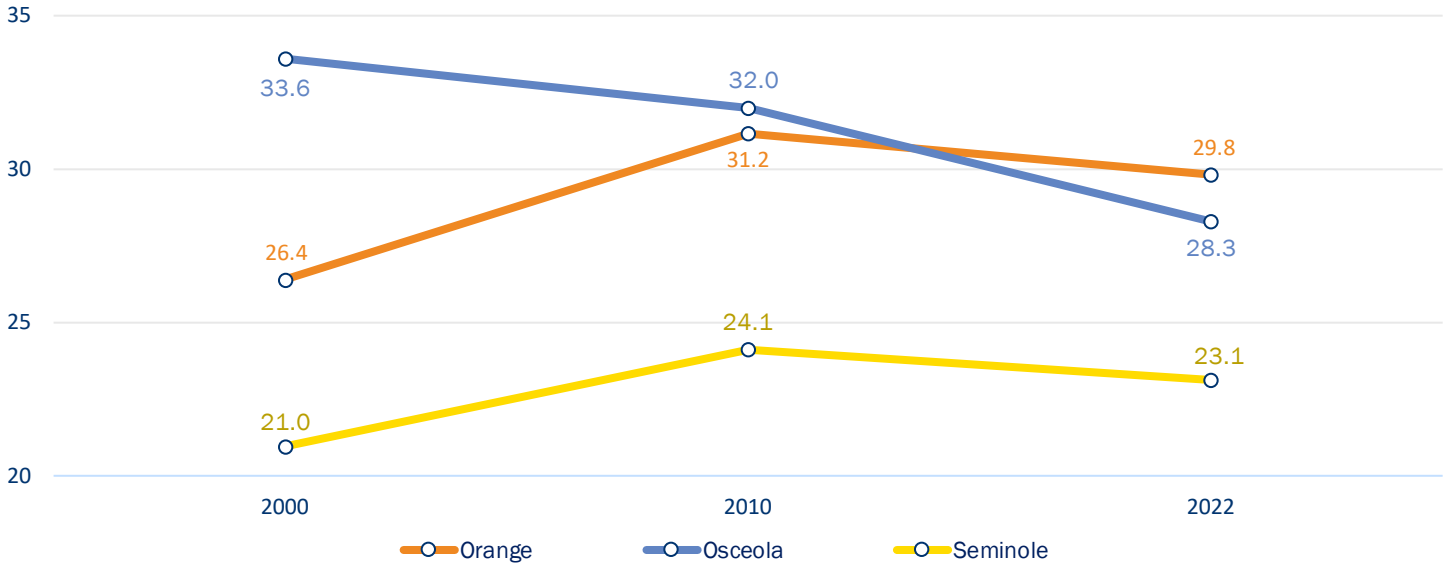
While the region has seen an increase in overall daily vehicle miles traveled over the past few decades, on a per capita basis, daily vehicle miles traveled has been decreasing since 2010. Figure 29 shows the daily vehicle miles traveled per capita trend since 2000, as compiled by FDOT.

Figure 28 | Daily Vehicle Miles Traveled



Source: Florida Department of Transportation, 2022

Figure 29 | Daily Vehicle Miles Traveled Per Capita

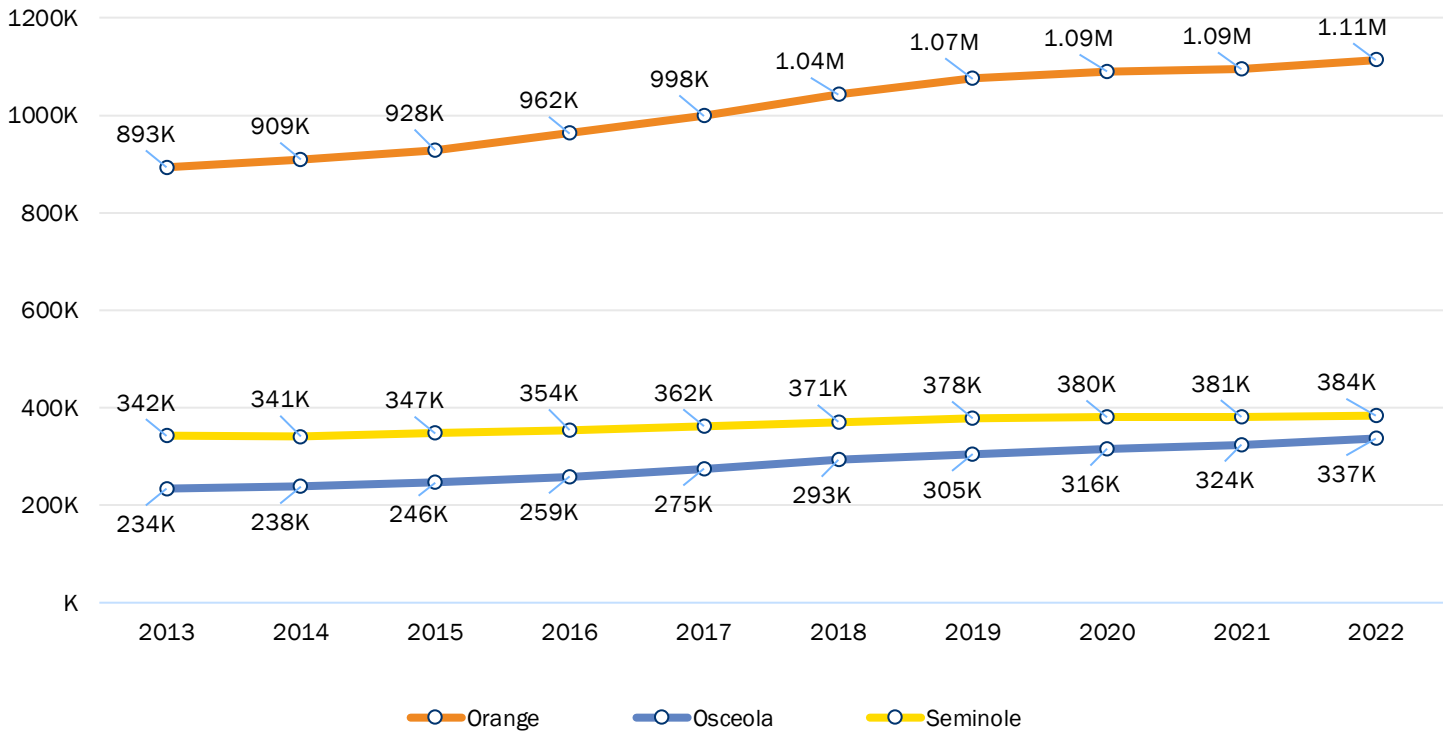


Source: Florida Department of Transportation, 2022

2.3.3 LICENSED DRIVERS

The number of licensed drivers in the region increased from 1.47 million in 2013 to 1.83 million in 2022, representing growth of approximately 25% during a time period when the region's population grew by approximately 20%. Osceola County saw the largest proportional increase during this time, with a 44% increase in licensed drivers from 2013 to 2022. Figure 30 shows the increases in licensed drivers across the three counties.

Figure 30 | Licensed Drivers

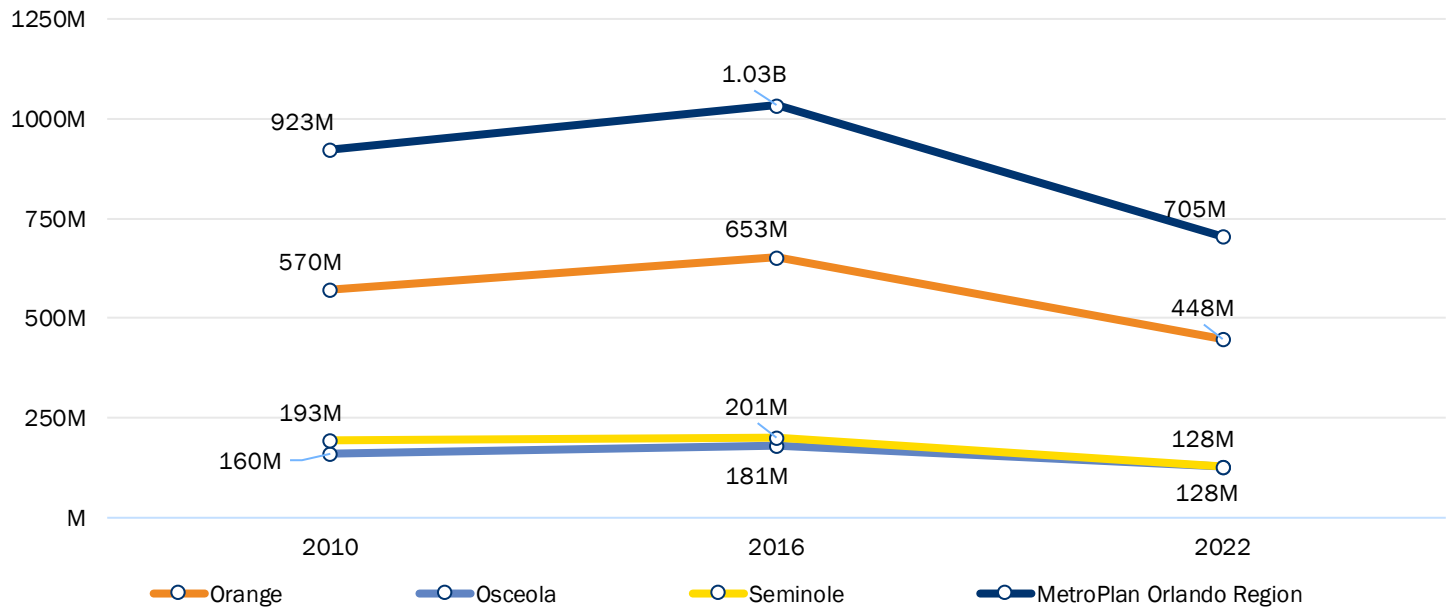


Source: Florida Department of Highway Safety and Motor Vehicles, 2022

2.3.4 FUEL CONSUMPTION & PRICES

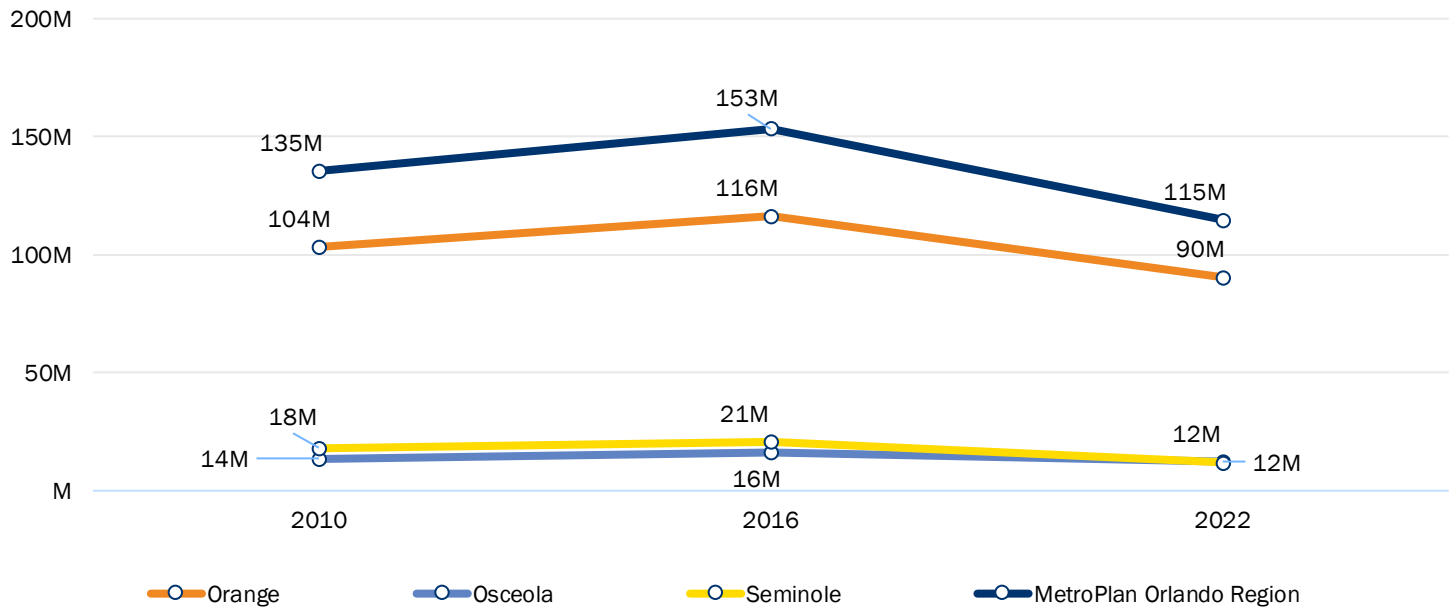
Fuel consumption increased with population growth in previous decades, but has begun to see a decline since the middle portion of the 2010's. These trends can be seen in Figures 31 and 32. This can be attributed to more fuel efficient vehicles, with increased vehicle miles per gallon resulting in fewer overall gallons utilized. As gas-powered automobiles became more efficient, a large disruption was also caused by the introduction and rapid adoption of electric vehicles that do not rely on gasoline or diesel fuel at all. Transit vehicles are also becoming increasingly more fuel efficient as well and exploring alternative fuel sources.

Figure 31 | Annual Gasoline Consumption in Gallons



Source: Florida Department of Revenue, 2022

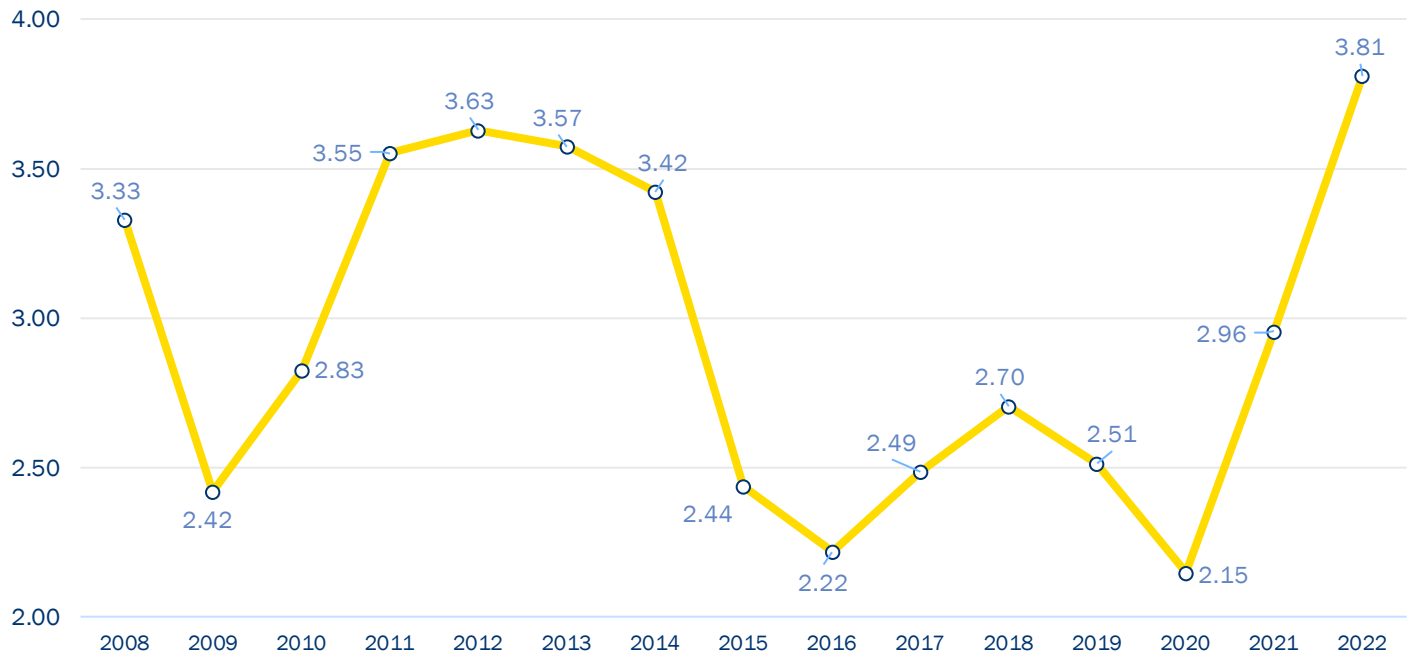
Figure 32 | Annual Diesel Consumption in Gallons



Source: Florida Department of Revenue, 2022

Gas prices are market-associated and are generally not the result of occurrences on a local level. As seen in Figure 33, gasoline prices have been volatile since 2008, with large variances occurring on a year-over-year basis. As of 2022, gasoline prices reached levels not previously seen over the past decade.

Figure 33 | Historical Gasoline Prices in the State of Florida



Source: U.S. Energy Information Administration, 2022

2.3.5 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. This has resulted in a drop in service productivity when combined with an increase in vehicle revenue miles of service.

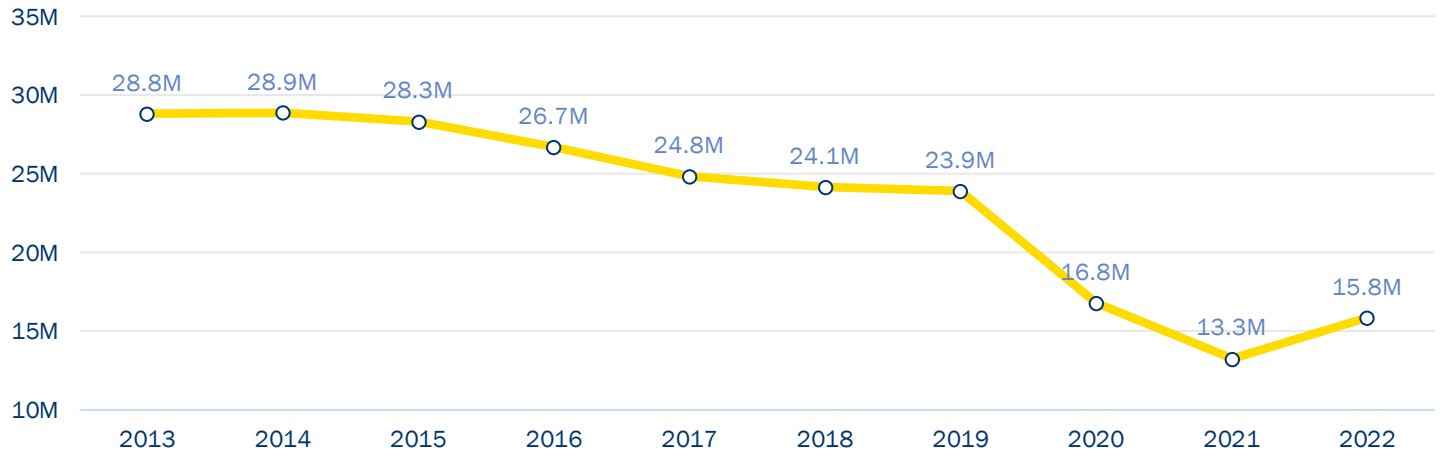
Overall, it was noted in the FDOT report that service utilization has steadily been declining since 2002. This was measured by boardings per revenue mile and found a lower service utilization in 2017 than any previous year's reference data. The FDOT report showed Average Fixed Route Operating Speed as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

These trends have continued since the release of the 2045 Metropolitan Transportation Plan in 2020, as the COVID-19 pandemic caused a large decrease in overall ridership that has not fully recovered in the years since. However, LYNX and SunRail ridership figures are gradually rising, and are slowly returning to pre-pandemic levels.

LYNX RIDERSHIP

LYNX ridership has been on the decline since reaching its peak in 2014. A drop of approximately 30% in ridership occurred between 2019 and 2020 as a result of the COVID-19 pandemic, and ridership has not returned to pre-COVID levels. While not studied regionally, the shift from in-office work to a work-from-home dynamic may play a role in decreasing ridership among commuters.

Figure 34 | Historical LYNX Ridership (Total Passengers, by Year)

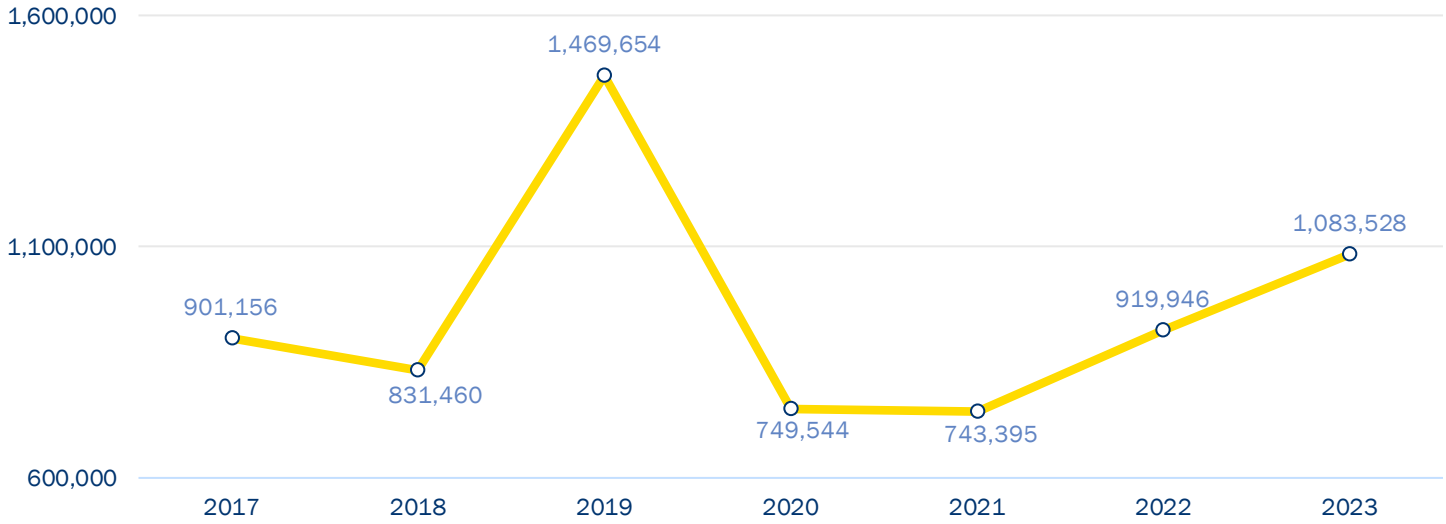


Source: LYNX, 2023

SUNRAIL RIDERSHIP

SunRail ridership peaked during the 2018-19 fiscal year at 1.47 million annual passengers and has not reached those levels since. Ridership dropped in 2020 and 2021 as a result of the COVID-19 pandemic, but an uptrend has been observed in 2022 and 2023.

Figure 35 | Historical SunRail Ridership (Total Passengers, by Year)



Source: SunRail, 2023

2.3.6 LEVEL OF TRAVEL TIME RELIABILITY

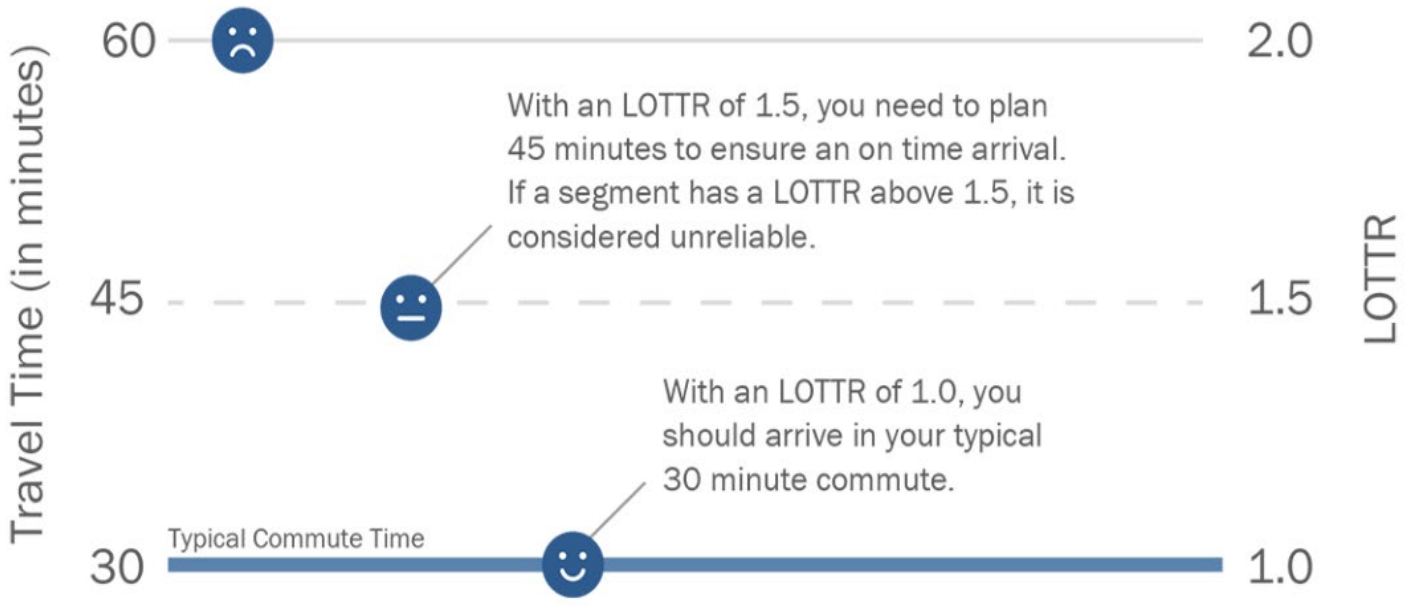
Travel reliability is how consistent, or predictable, travel conditions are for a trip or on a certain road. Some roads have very repeatable and consistent conditions day-to-day and are considered "reliable," while others are more inconsistent with delays and are considered "unreliable." A congested road is still considered reliable if the congestion is consistent and there are predictable travel times at certain times of the day.

Level of Travel Time Reliability (LOTTR) is a part of System Performance Measure 3 (PM3) and is how MetroPlan Orlando measures how reliable travel times are within the region. The LOTTR measures the variability of travel times that occur on a facility or a trip over a period of time. Reliability measures the benefit of traffic management and is significant to everyone who uses the transportation network, including motor vehicle users, transit riders, freight shippers, and others.

A segment of roadway is considered reliable when its LOTTR is less than 1.5, and it is generally considered unreliable above 1.5. Figure 36 illustrates how LOTTR may affect the average traveler. The example in this figure is of a typical 30 minute commute. With a LOTTR of 1.5, if your work commute takes 30 minutes on average, you would need to plan 45 minutes to ensure an on-time arrival, the majority of the time.

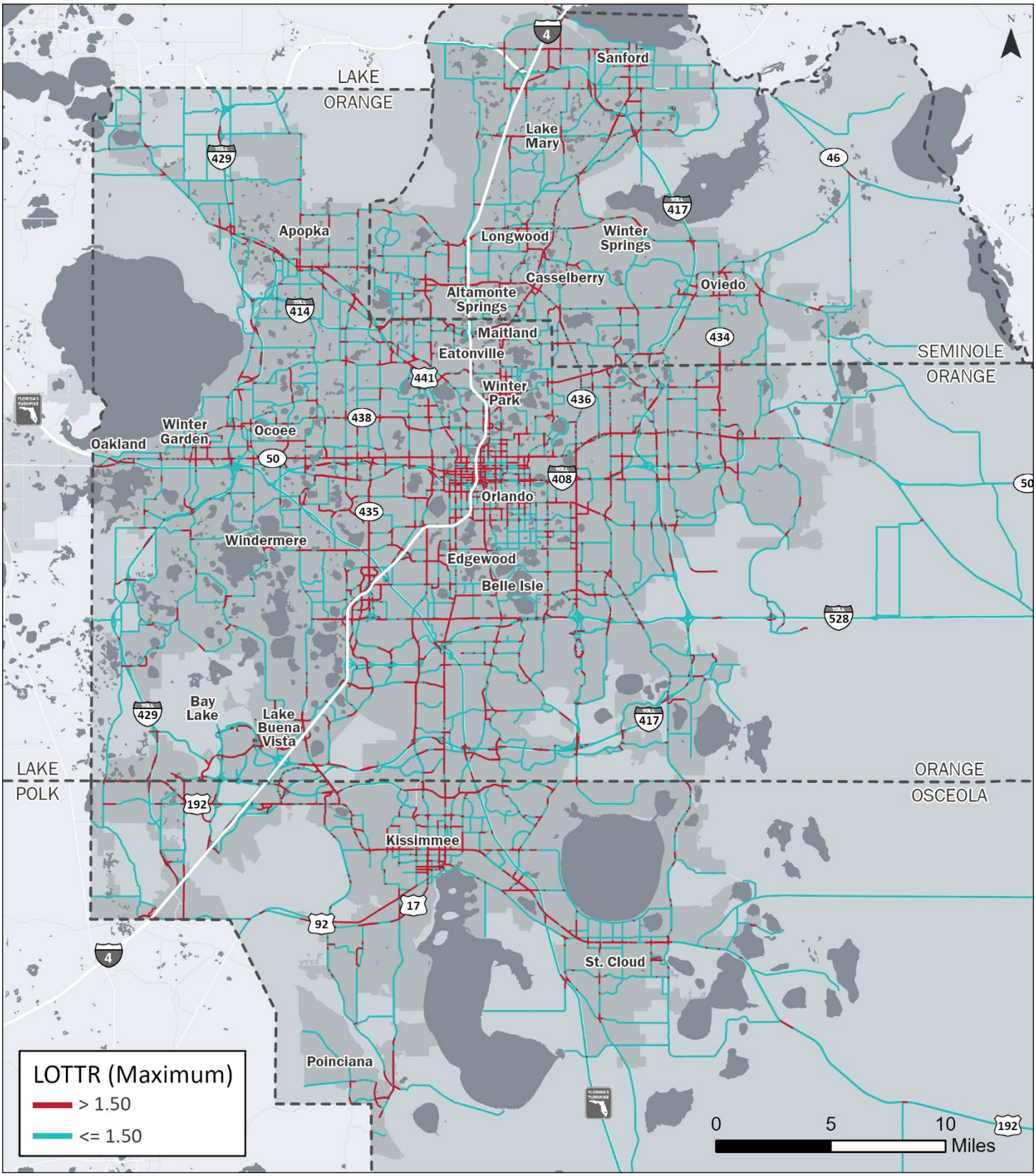
MetroPlan Orlando uses data to evaluate vehicle travel speeds in order to measure the LOTTR on road segments within the region. This data is evaluated for weekdays, weekday mornings (AM peak), weekday midday peak, weekday evenings (PM peak), and on weekends. Figure 37 on the following page shows the maximum LOTTR, per roadway segment, of the five LOTTR metrics that are tracked.

Figure 36 | LOTTR Example



Source: MetroPlan Orlando

Figure 37 | Maximum Level of Travel Time Reliability (LOTTR)



Source: Streetlight Data, 2022

2.4 ACCESS, CONNECTIVITY & TECHNOLOGY

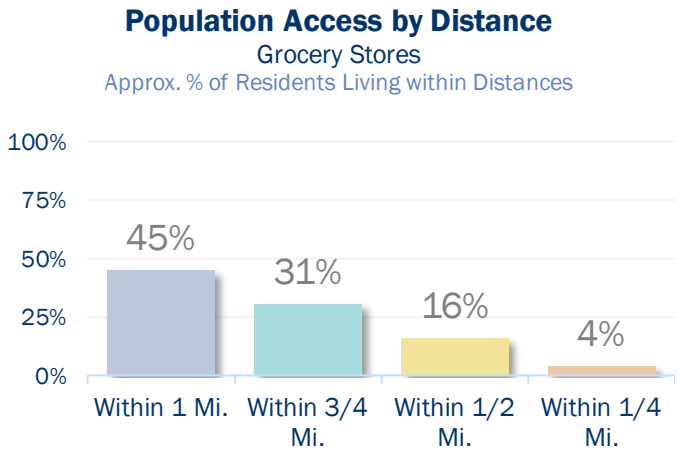
MetroPlan Orlando takes a holistic approach to tracking access and connectivity within the region while incorporating the use of technology to understand the ever-changing transportation landscape. Additionally, technological innovations such as micromobility, electric vehicles, and the use of artificial intelligence for autonomous vehicle training will continue to alter how we get around.

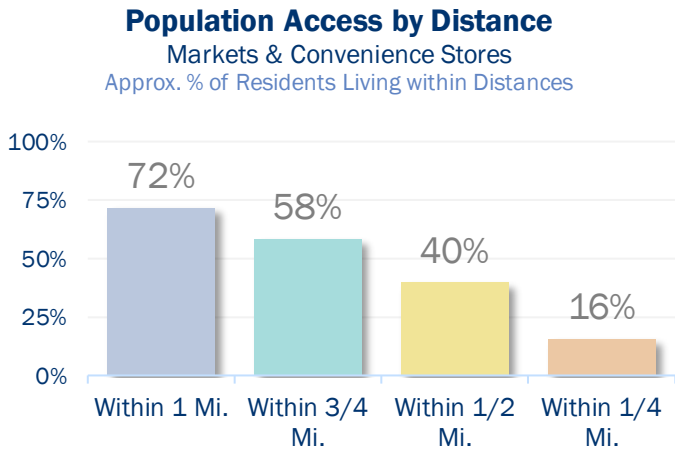
This section of the report includes an accessibility map series that shows the 1.5-mile radius to selected point of interest types, which is a distance metric catering to bicycle and pedestrian travel. Emerging technologies such as electric vehicles and artificial intelligence are also discussed.

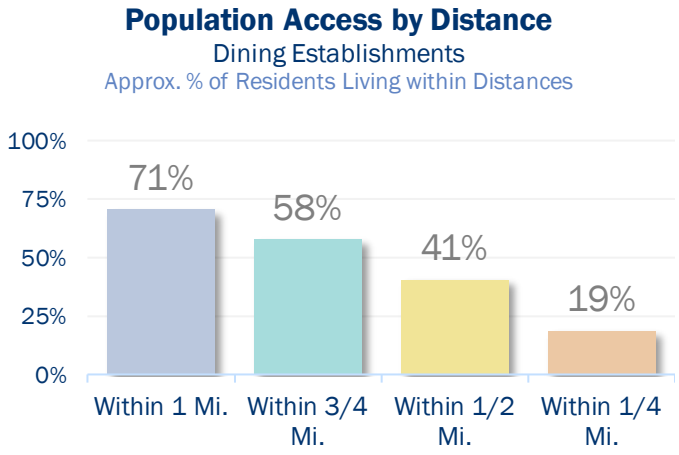
2.4.1 ACCESSIBILITY MAP & DATA SERIES

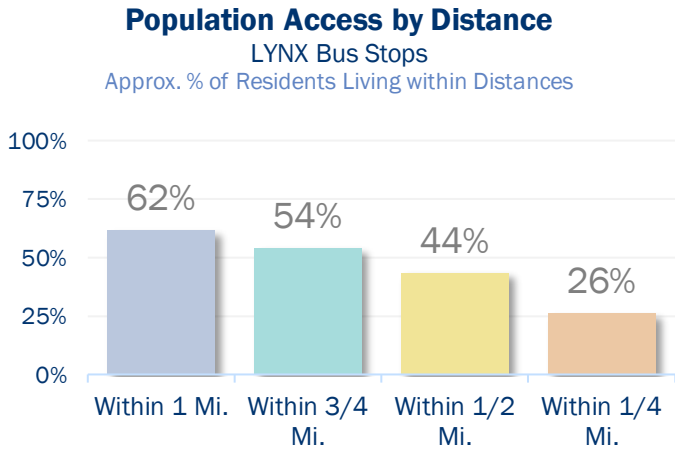
Accessibility in the region is gauged relative to the types of destinations to which people drive, bike, walk and roll. This portion of the report includes a comprehensive set of accessibility maps that show walking and biking proximity to the nearest grocery store, market, dining establishment, transit stop, high school, middle school and elementary school. The statistics in Figure 38 show the percent of the region's population that live within specified distances of certain point of interest types. Figure 38 continues to the next page of the report. A map series showing the points of interest and the proximity to each category of points of interest is shown in Figures 39, 40, 41, 42, 43, 44, 45, and 46.

Figure 38 | Percent of Population Living within Distances of Specified Point of Interest Types

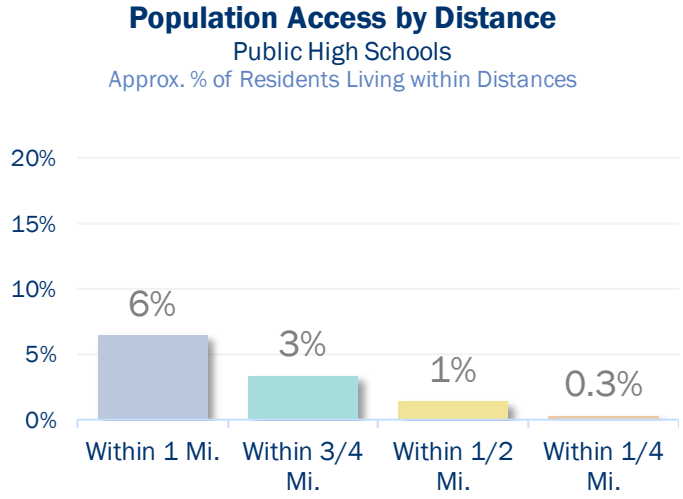


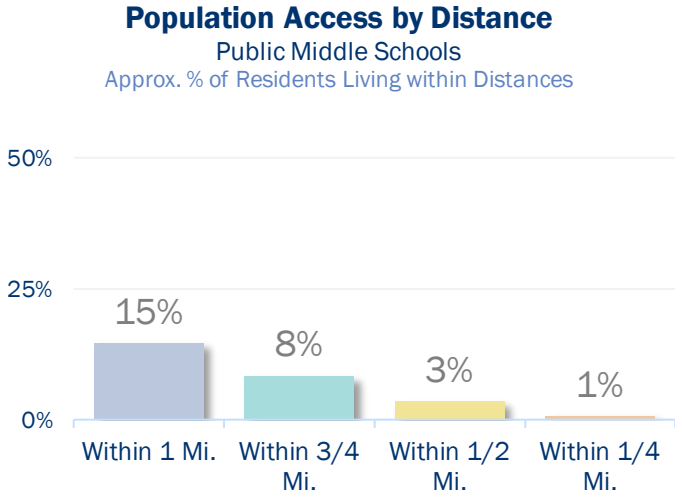


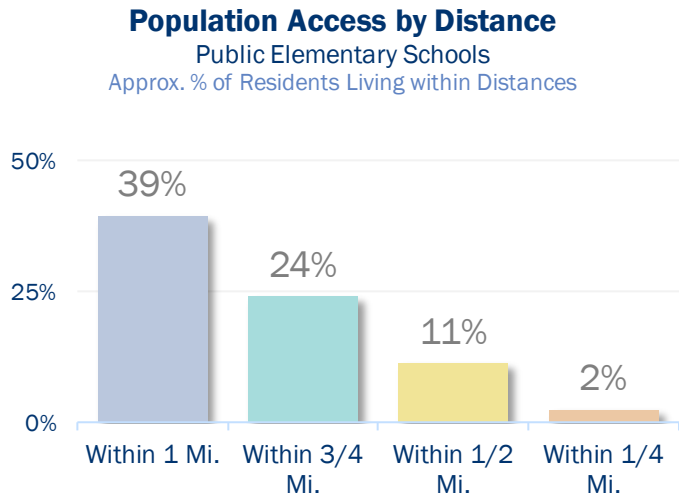


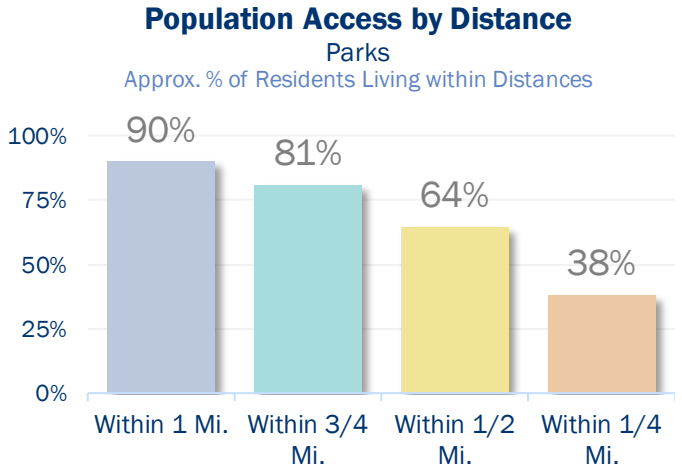


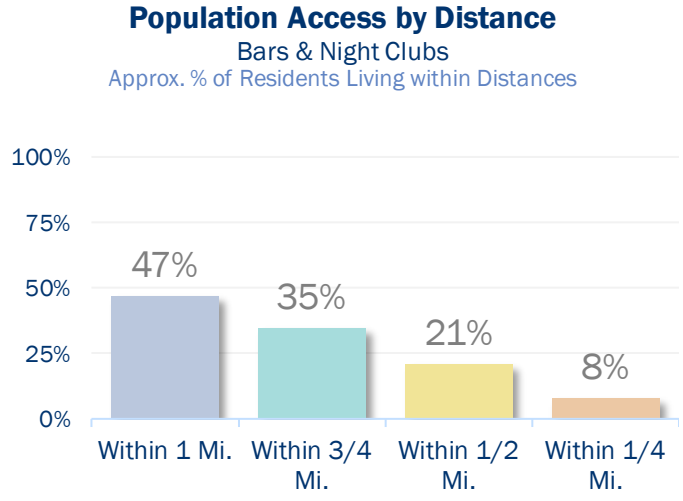
Source: xGeographic Wave, 2023

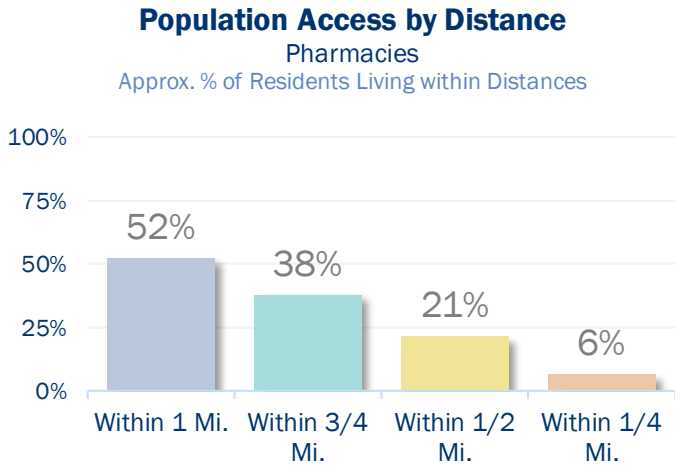






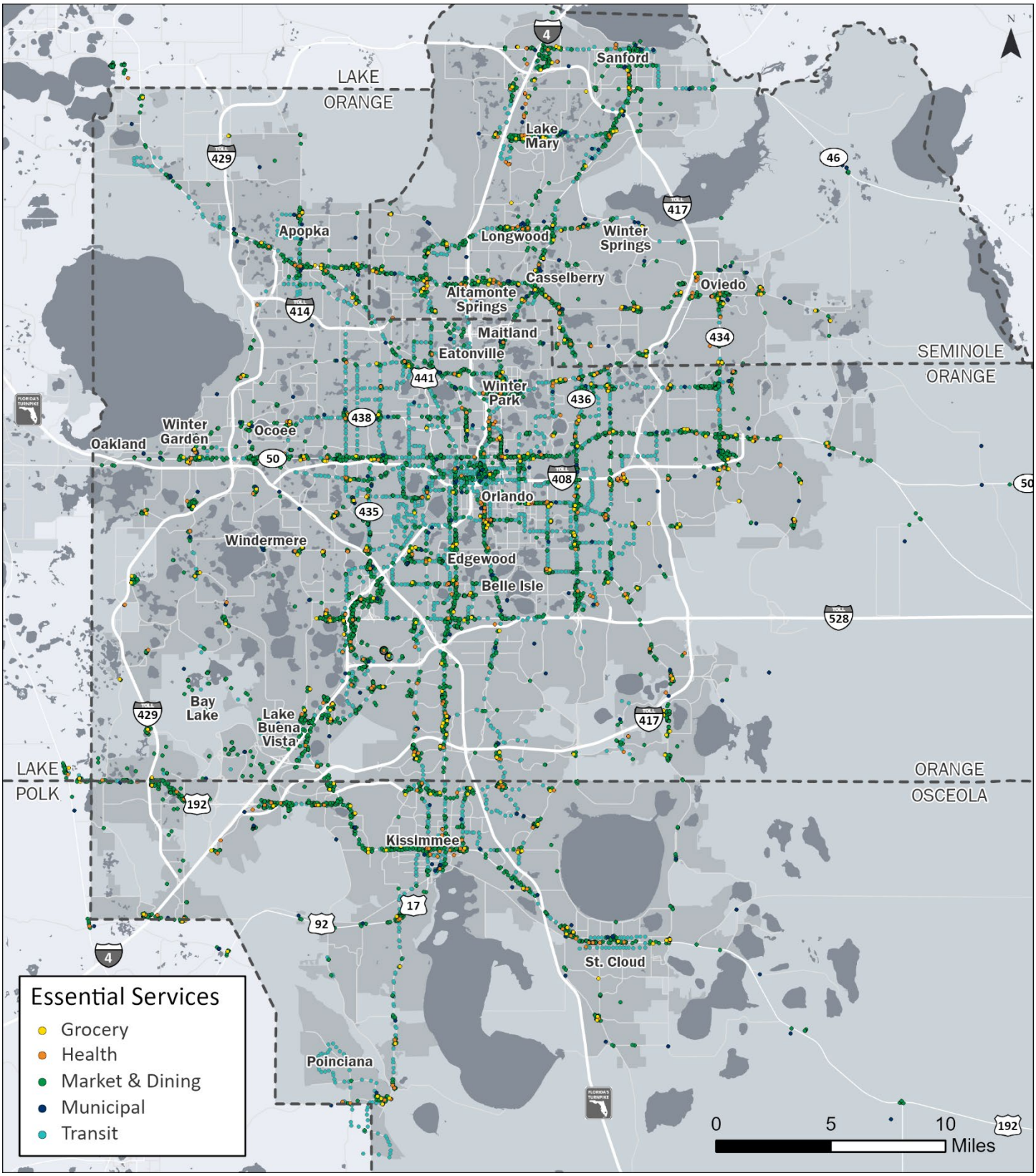






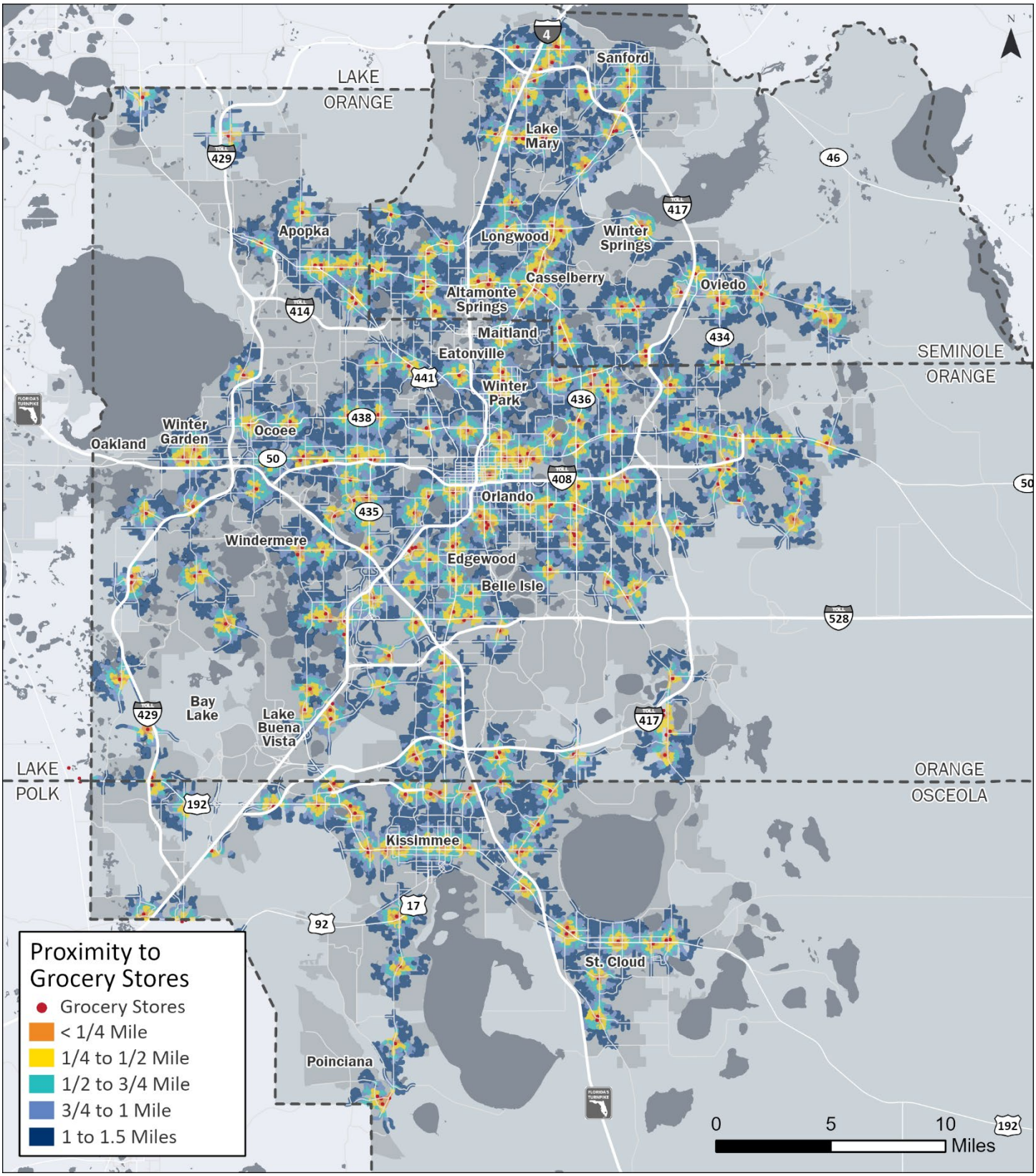
Source: xGeographic Wave, 2023

Figure 39 | Essential Service Points of Interest



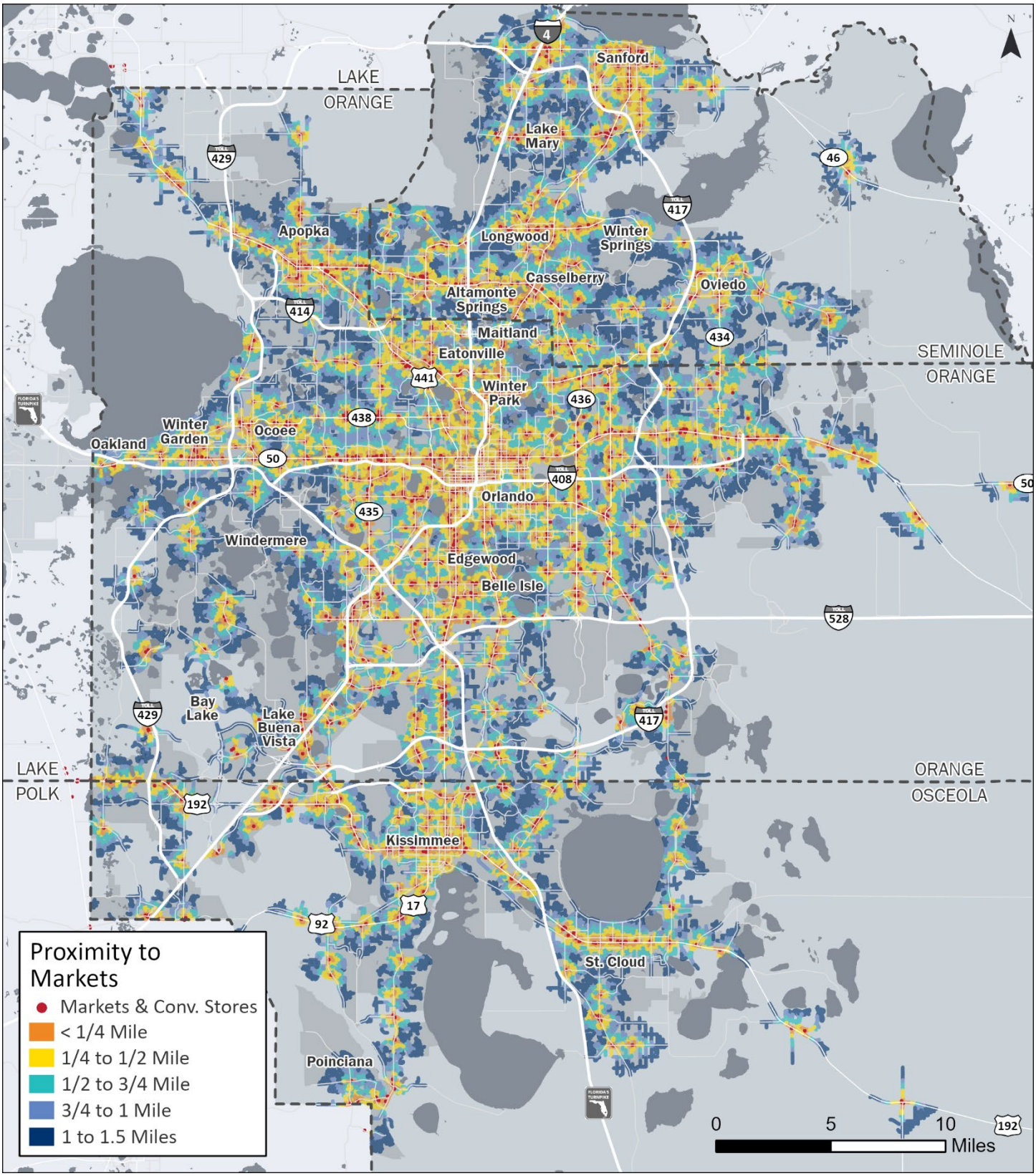
Source: xGeographic Wave, 2023

Figure 40 | Proximity to Grocery Stores



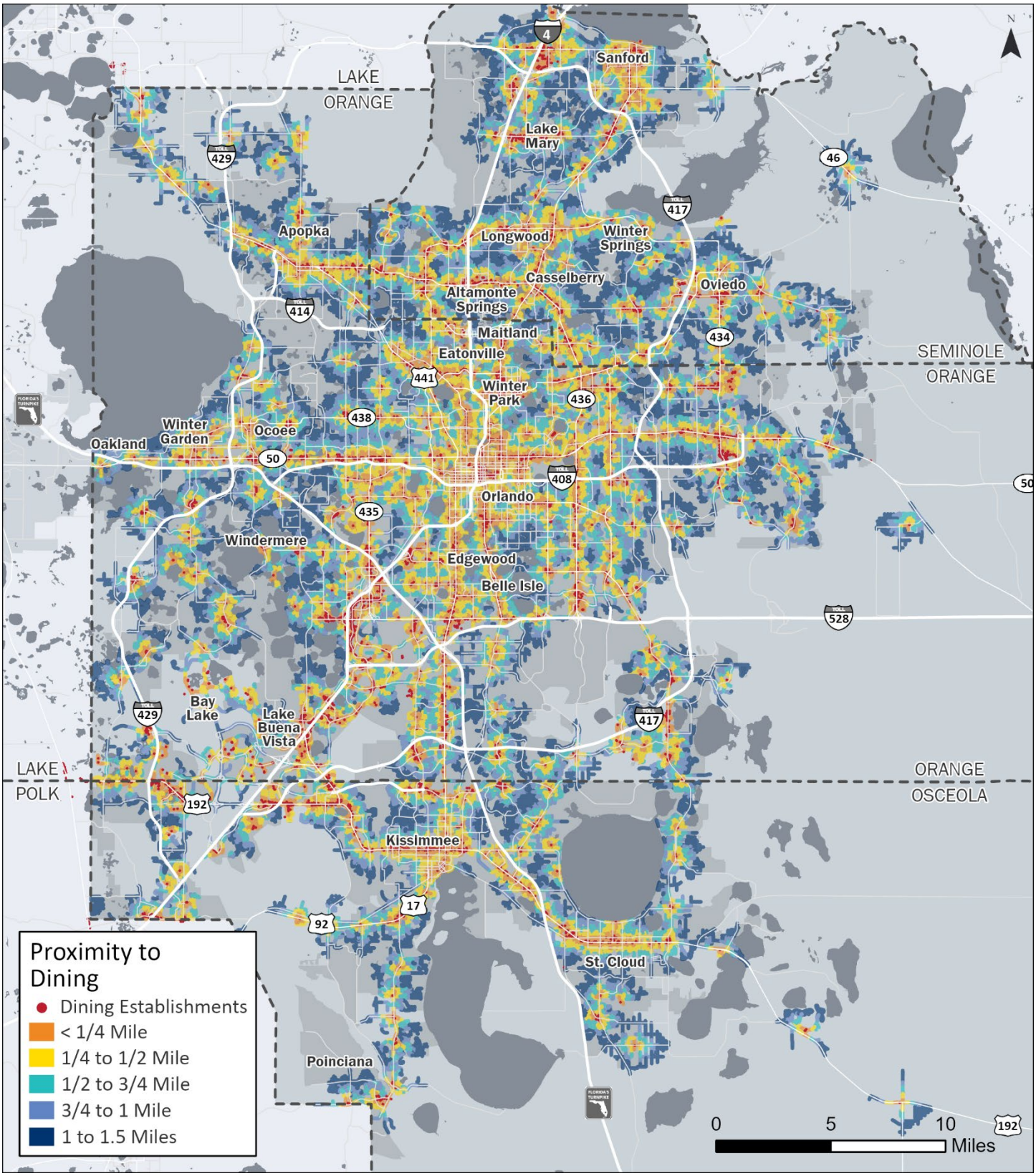
Source: xGeographic Wave, 2023

Figure 41 | Proximity to Markets & Convenience Stores



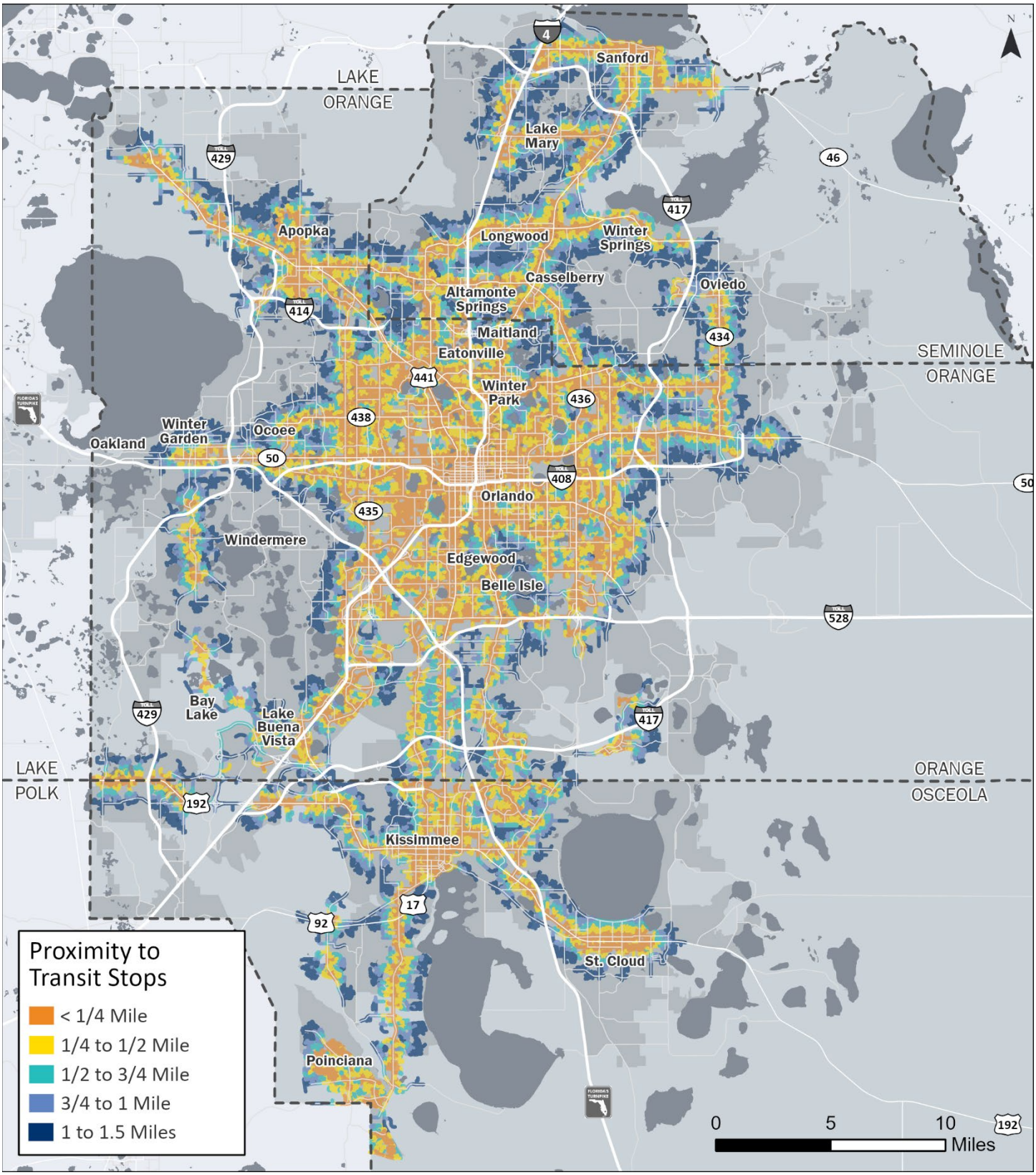
Source: xGeographic Wave, 2023

Figure 42 | Proximity to Dining Establishments



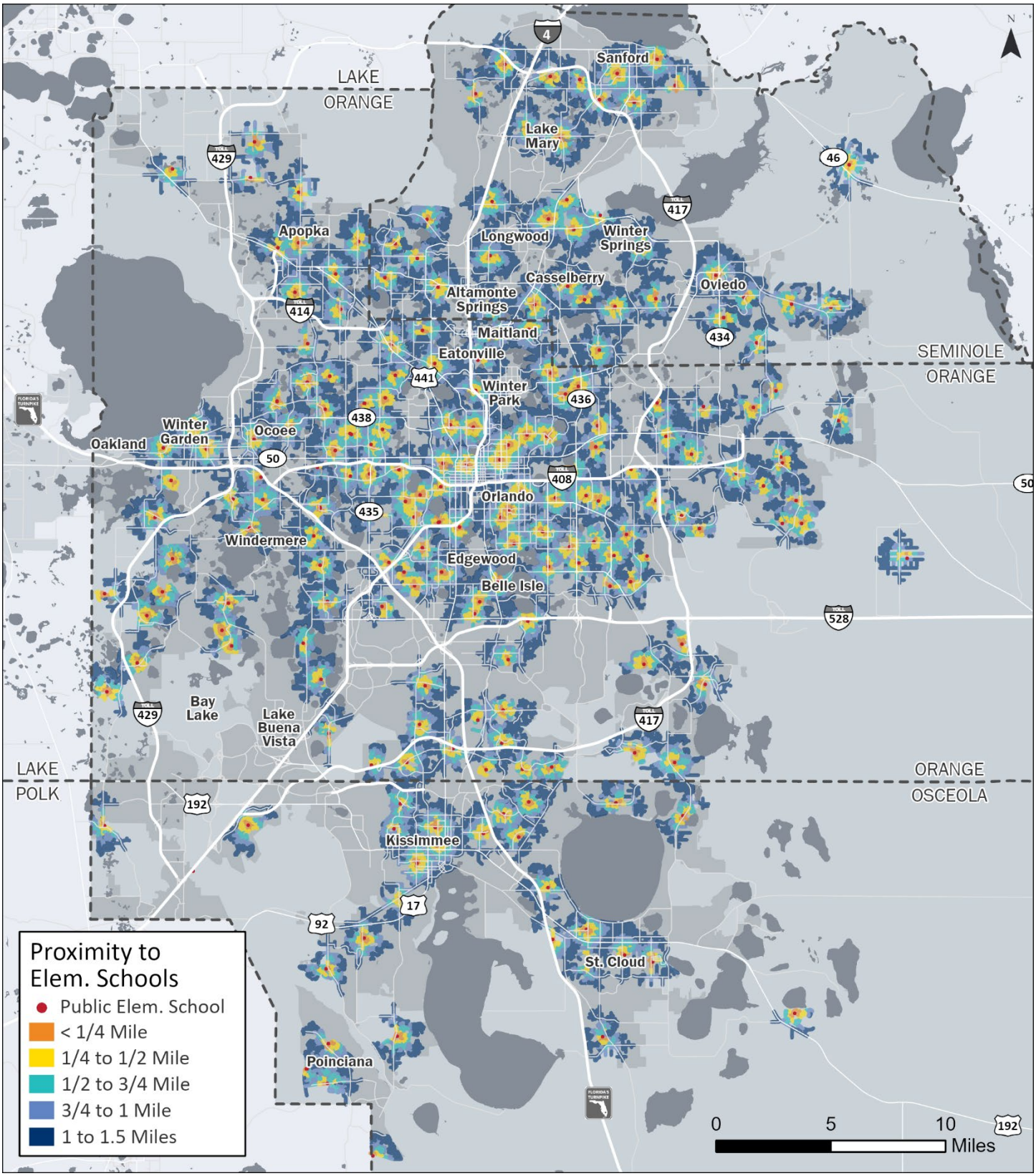
Source: xGeographic Wave, 2023

Figure 43 | Proximity to LYNX Bus Stops



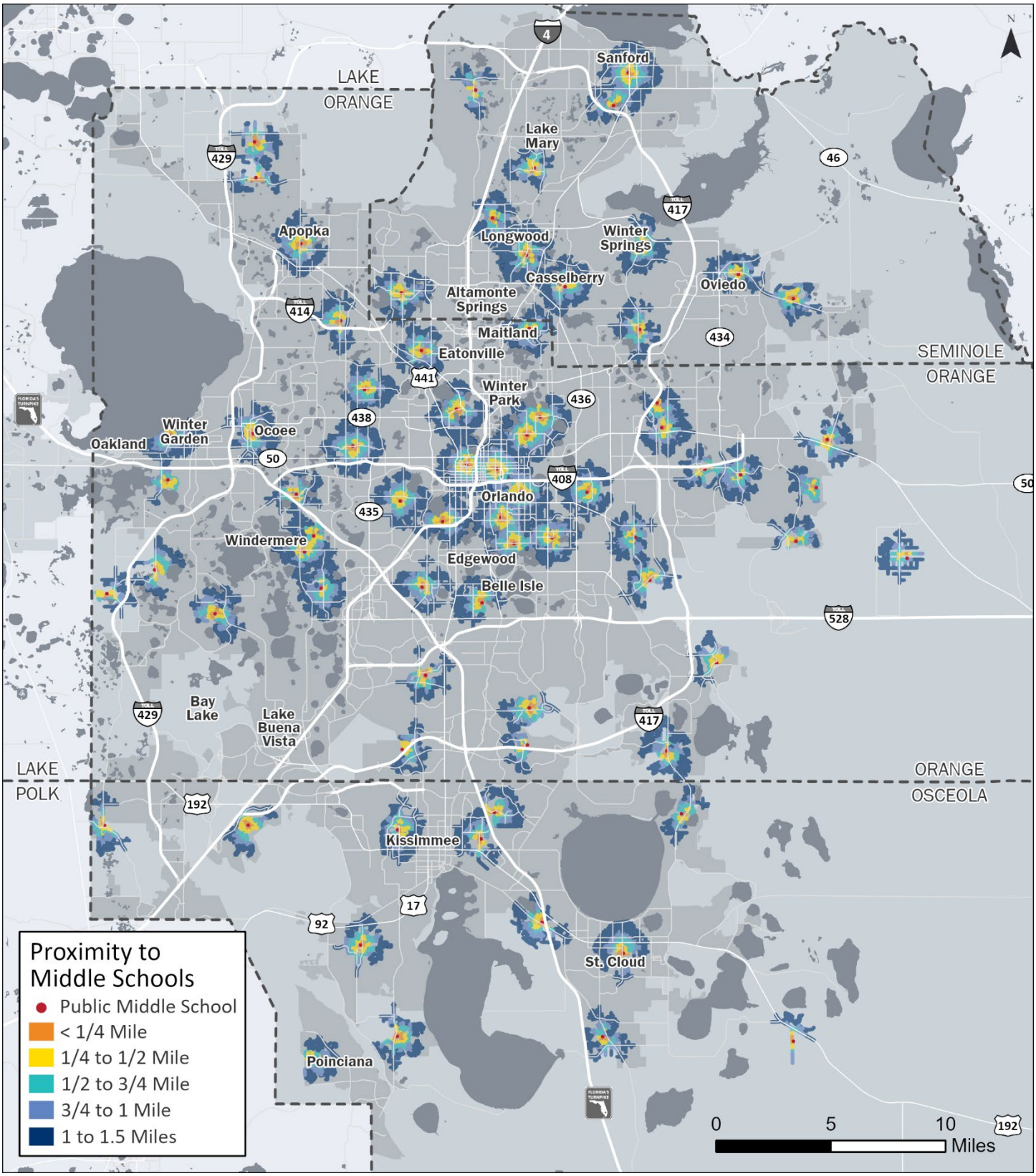
Source: xGeographic Wave, 2023

Figure 44 | Proximity to Public Elementary Schools



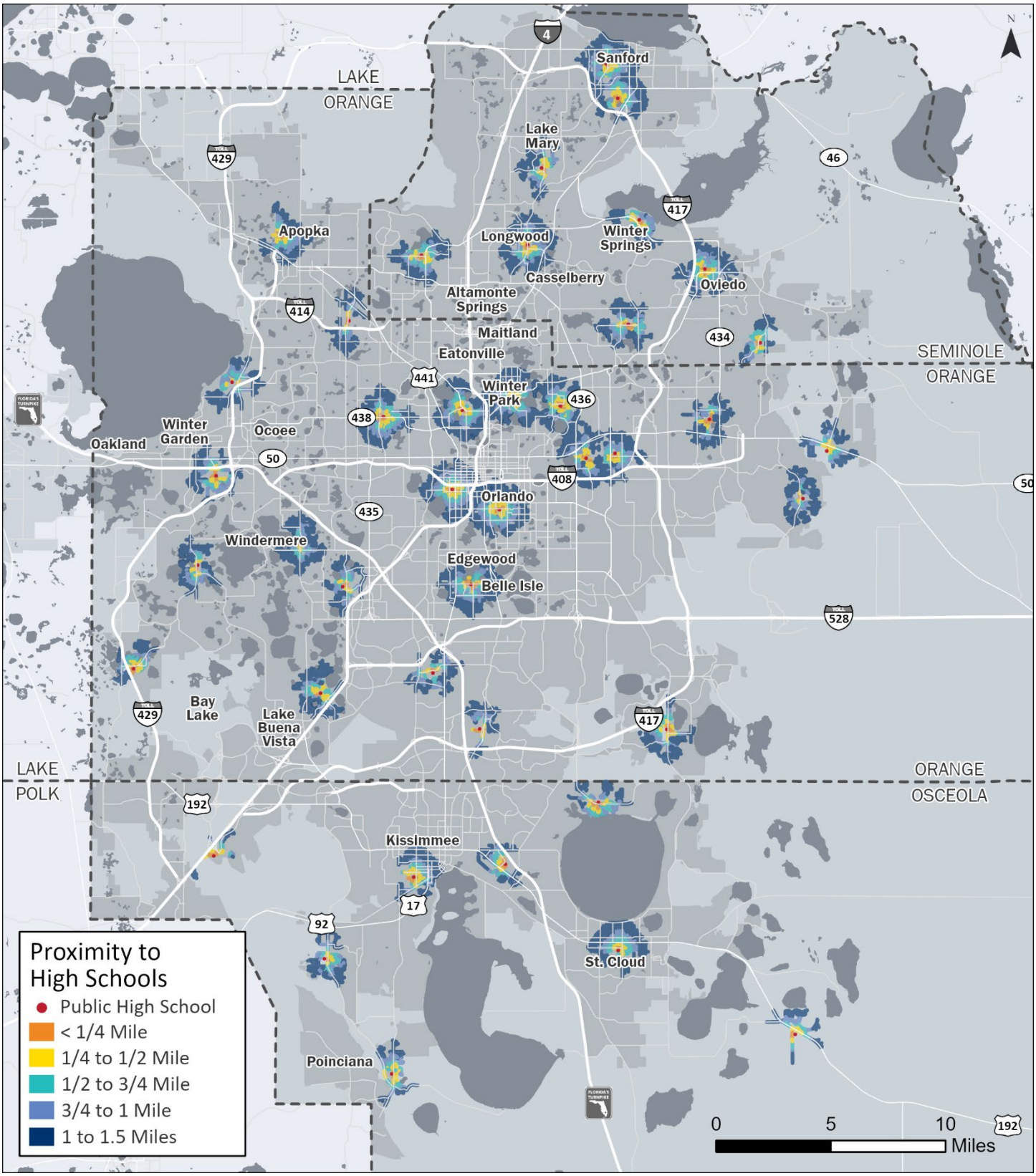
Source: xGeographic Wave, 2023

Figure 45 | Proximity to Public Middle Schools



Source: xGeographic Wave, 2023

Figure 46 | Proximity to Public High Schools

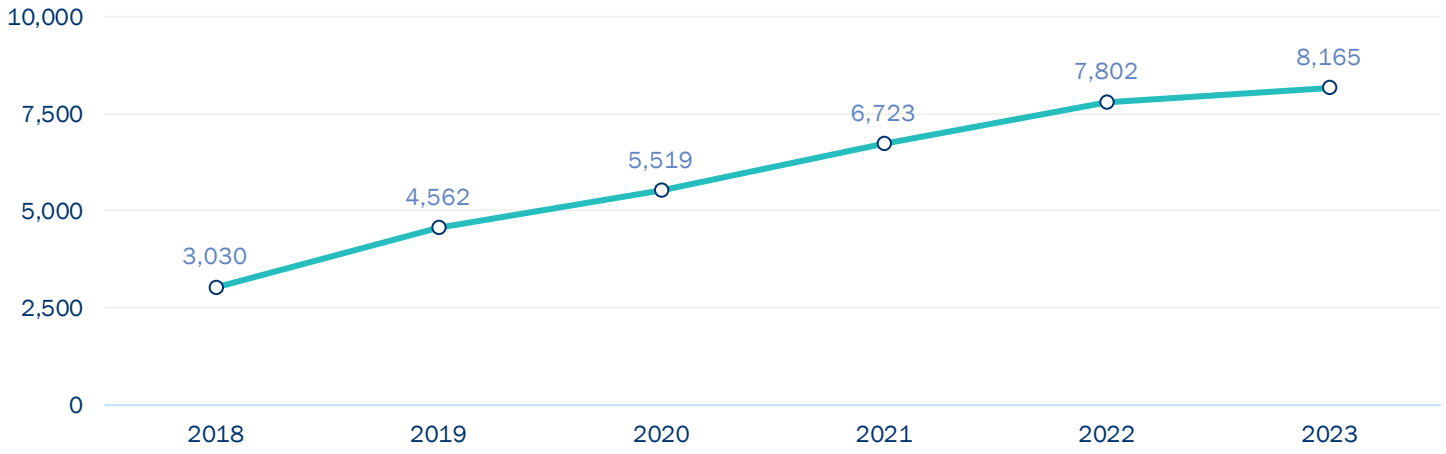


Source: xGeographic Wave, 2023

2.4.2 TECHNOLOGY TRENDS | ELECTRIC VEHICLES

Mass-adoption of electric vehicles is among the biggest trends happening in the world of transportation. Implications associated with electric vehicle adoption include increased demand for electric batteries, decreased demand for fuels such as gasoline and diesel, improvements in air quality, and downstream impacts on policies that utilize funding mechanisms relying on gas taxes. Figure 47 below depicts the number of electric charging stations in Florida from 2018 through 2023, which more than doubled during this time span.

Figure 47 | Electric Vehicle Charging Stations in Florida



Source: U.S. Bureau of Transportation Statistics, 2023

2.4.3 TECHNOLOGY TRENDS | ARTIFICIAL INTELLIGENCE & AUTONOMOUS VEHICLES

Numerous private companies are currently working to train artificial intelligence "neural networks" to be able to create self-driving vehicles. This innovation would likely have massive impacts on transportation logistics and safety if implemented at scale.

This trend is being undertaken using a wide range of strategies, from LIDAR and radar detection, to pure vision-based approaches. The impacts of these innovations would be wide-ranging in the world of transportation. Ride-hailing could become more popular, and the cost of transport per mile could be drastically reduced. Additionally, goods could likely be transported autonomously, which would have major impacts on employment in the transportation sector. Finally, automobile utilization could increase in terms of hours-per-day of usage per vehicle, which could decrease the demand for parking lots and allow for shared origin-destination trips.

As time progresses, the capacity to train neural networks is anticipated to increase in line with Moore's law, which states that the number of input transistors used by microchips doubles every two years. This increase in training capacity at a lower marginal cost is expected to greatly enhance the ability for artificial intelligence to be used to "train" cars to drive in extremely unique, novel circumstances without intervention from a driver. Eliminating crashes due to novel circumstances are key to overall safety improvements.

Alongside increased neural network training capacity, cars equipped with vision-and-radar-based monitoring systems continue to drive around on roads and collect visual information (and driver-intervention-information), which may further enhance the ability for vehicles to drive themselves over time. This self-propagating effect is fundamental to artificial intelligence and underscores the speed at which changes in the autonomous driving industry can occur.

2.5 HEALTH & ENVIRONMENT

MetroPlan Orlando follows numerous data points relating to health indicators and environmental factors. The Florida Department of Environmental Protection (FDEP) monitors air quality at three locations in the region, one in each of the three counties. Additionally, the U.S. Centers for Disease Control and Prevention monitors the prevalence of numerous diseases as part of their PLACES datasets. This section summarizes the latest information from these sources.

2.5.1 AIR QUALITY

Nitrogen Oxide and Nitrogen Dioxide (NOx), Ozone, and Volatile Organic Compounds (VOCs) are common metrics for tracking air quality. NOx and VOCs are formed from the burning of gasoline and diesel fuels, among other sources. According to the US Environmental Protection Agency (EPA), health issues and ecological effects can result from high levels of these particulates. Vehicles and various forms of transportation contribute to the emission of these substances, so they are routinely tracked to make sure air quality continues to meet federal standards.. A relationship between the air quality and the traffic levels can be inferred from Figure 50 as higher measures of emissions are located along or near major thoroughfares.

Air quality readings from FDEP are measured at four locations, Lake Isles Estates and Skyview Drive in Orange County, Four Corners in Osceola County, and at Seminole State College in Seminole County. Ozone levels are monitored at all four locations, while carbon monoxide and nitrogen dioxide levels are monitored at the Lake Isles Estates location. The readings from these monitoring stations can be seen in Figures 48 and 49.

Figure 48 | Ozone Levels, Regional Monitoring Stations (Fifth Highest Annual Reading)

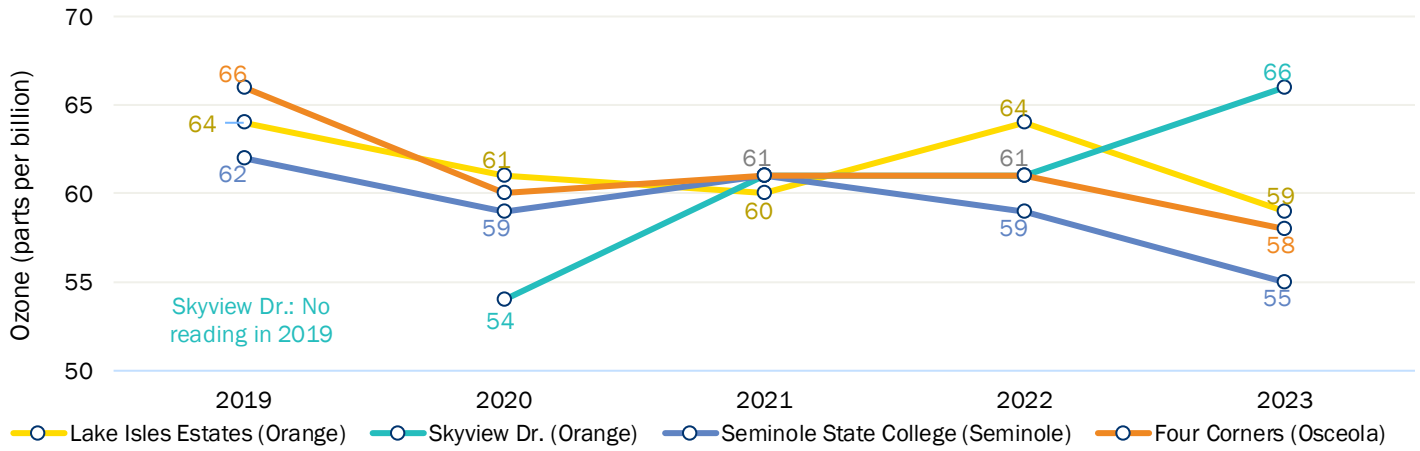
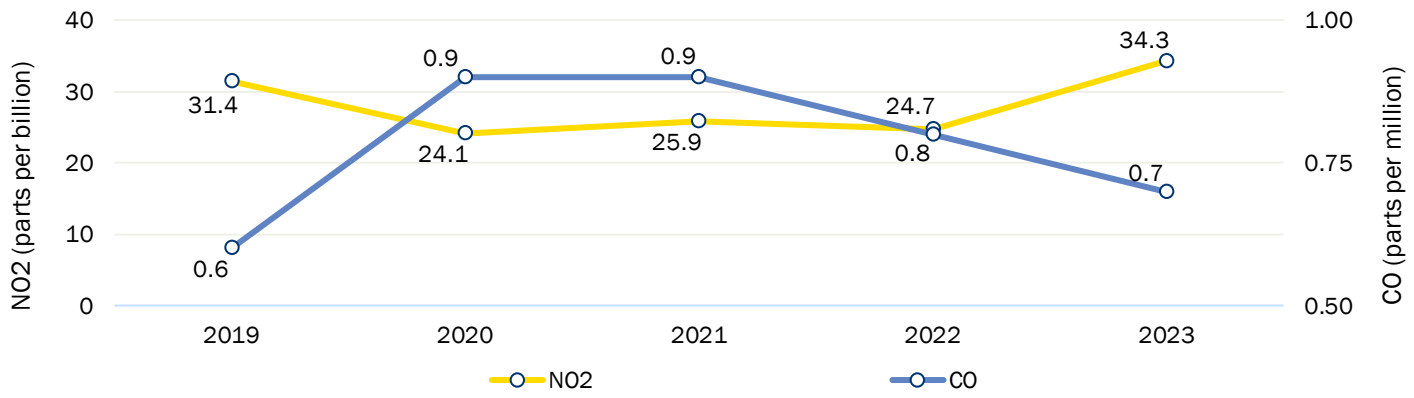


Figure 49 | Carbon Monoxide (CO) & Nitrogen Dioxide Levels (NO2), Lake Isles Estates (Fifth Highest Annual Reading)



Source: Florida Department of Environmental Protection, 2023 (Both Figures)

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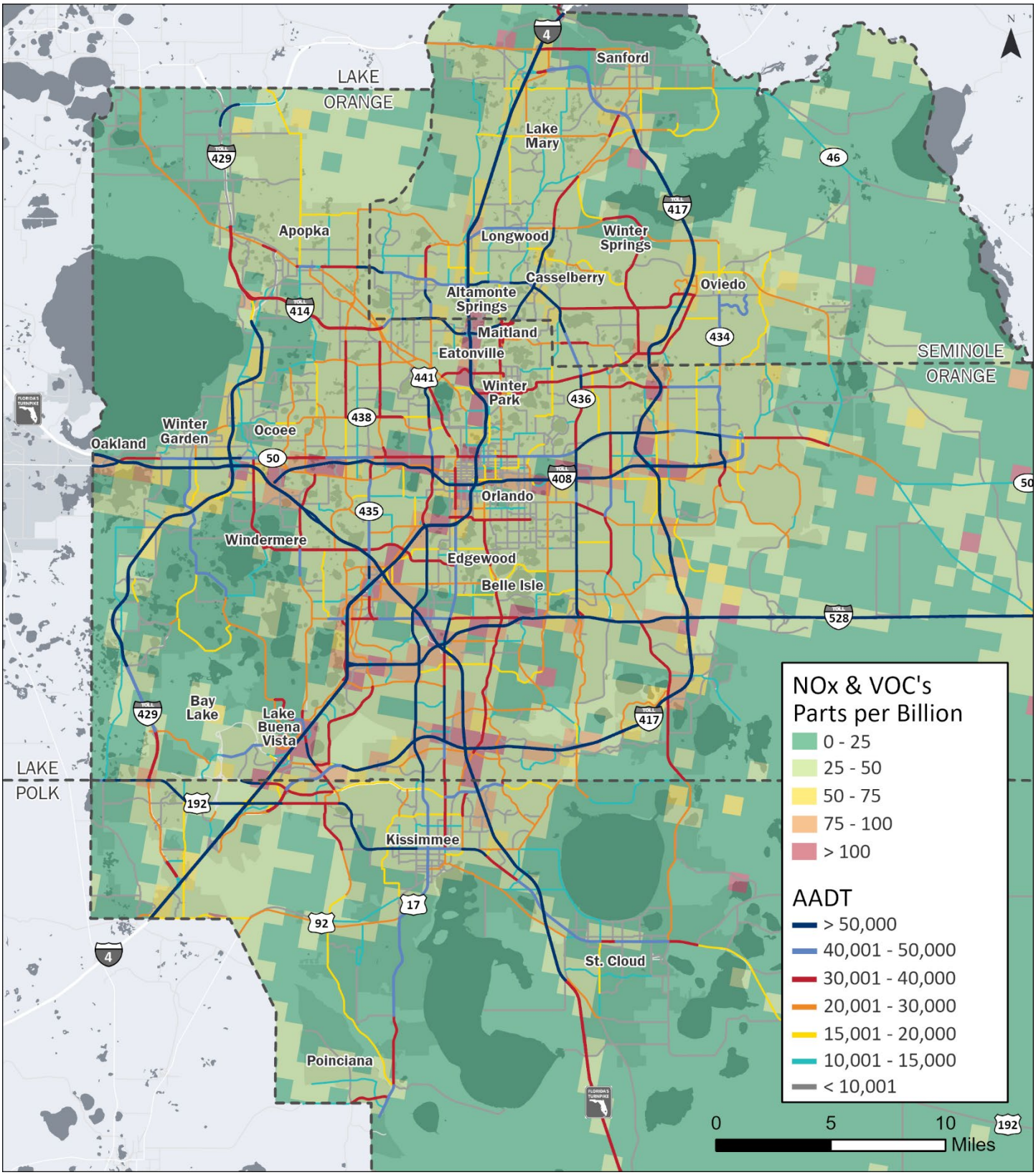
Figure 50 | NOx and Volatile Organic Compound (VOC) Levels with Daily Traffic



Sources: University of Central Florida (Air Quality), 2017; Florida Department of Transportation (AADT), 2023

2.5.2 HEALTH INDICATORS

MetroPlan Orlando takes a comprehensive approach to planning for community health and has developed strategies to improve health in the region using a transportation lens. In 2022, the Health Strategic Plan was published, which incorporates healthy transportation infrastructure, transportation safety, and access to health care into a unified vision to improve health outcomes in the region.

The Centers for Disease Control and Prevention tracks health information at the zip code and census tract levels, and Figure 51 and Figure 52 show the prevalence of obesity and asthma in the region, respectively.

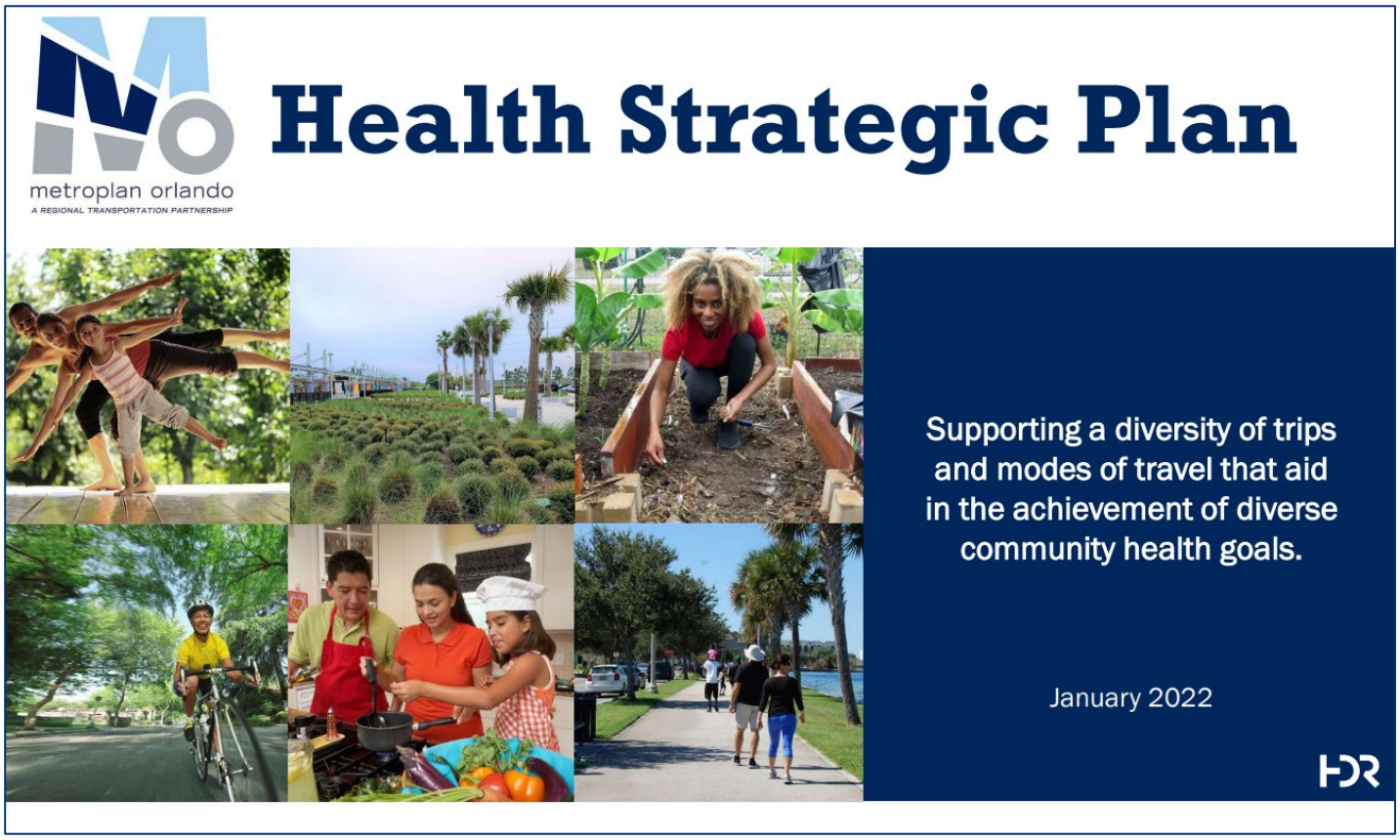
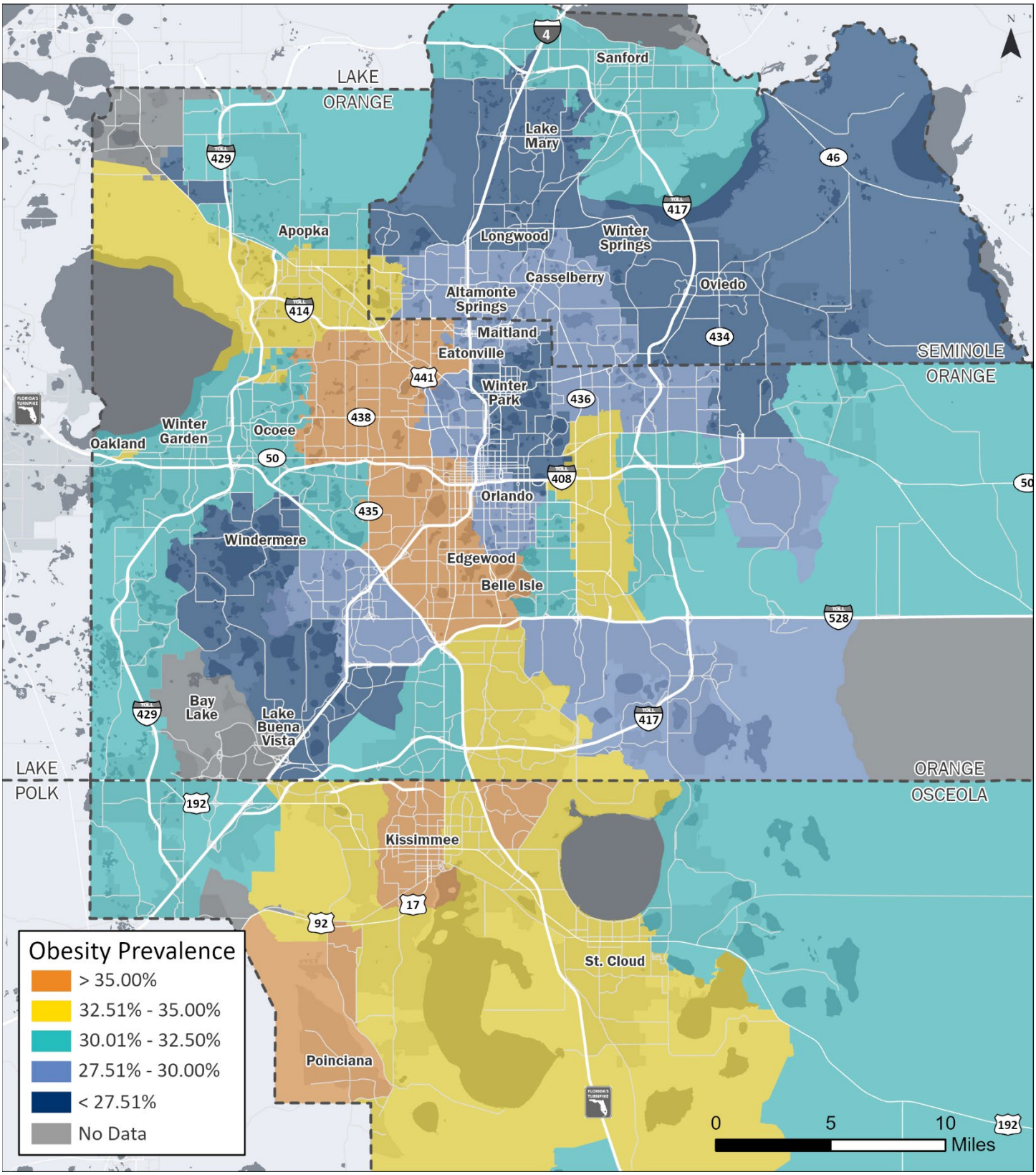
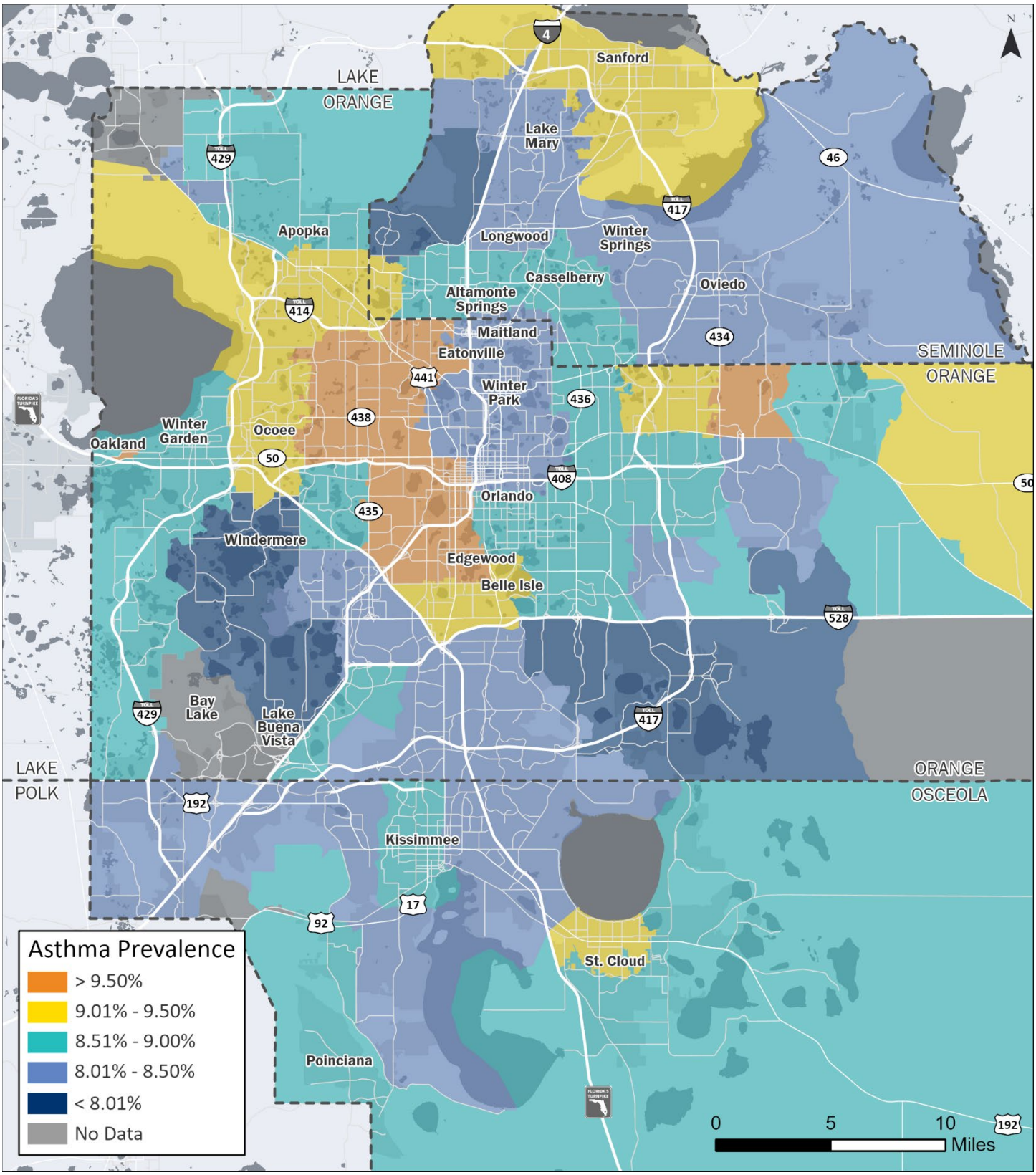


Figure 51 | CDC 500 Cities PLACES Data – Crude Obesity Prevalence



Source: U.S. Centers for Disease Control and Prevention, 2022

Figure 52 | CDC 500 Cities PLACES Data – Crude Asthma Prevalence



Source: U.S. Centers for Disease Control and Prevention, 2022

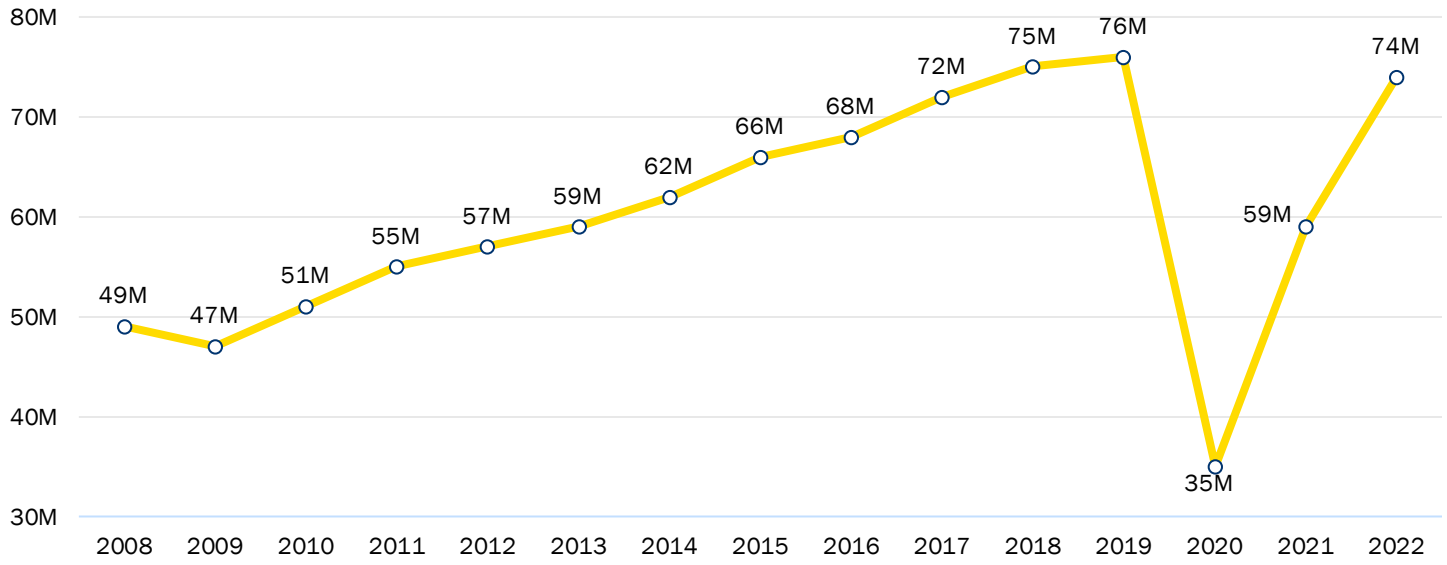
2.6 INVESTMENT & ECONOMY

The Central Florida region is among the most-visited areas of the world, and our local economy is largely supported by accommodating visitors to the region. A large number of jobs are centered on the tourism and services industry, most of which are located in southwest Orange and northwest Osceola Counties. Numerous limited access highways and transit options accommodate visitors and workers in this area, including direct bus service from the Orlando International Airport. This section includes maps and data relating to tourism, major attractions, lodging establishments, and the economic impacts of traffic delays.

2.6.1 VISITATION

The MetroPlan Orlando region has numerous attractions, ranging from natural springs and wetlands to some of the most-visited destinations in the world. Figure 53 below shows the number of annual visitors to the Central Florida region from 2008 through 2022. A 54% decrease occurred in 2020 as a result of the COVID-19 pandemic, but visitor numbers have since rebounded to the levels seen prior to the pandemic.

Figure 53 | Visitors by Year

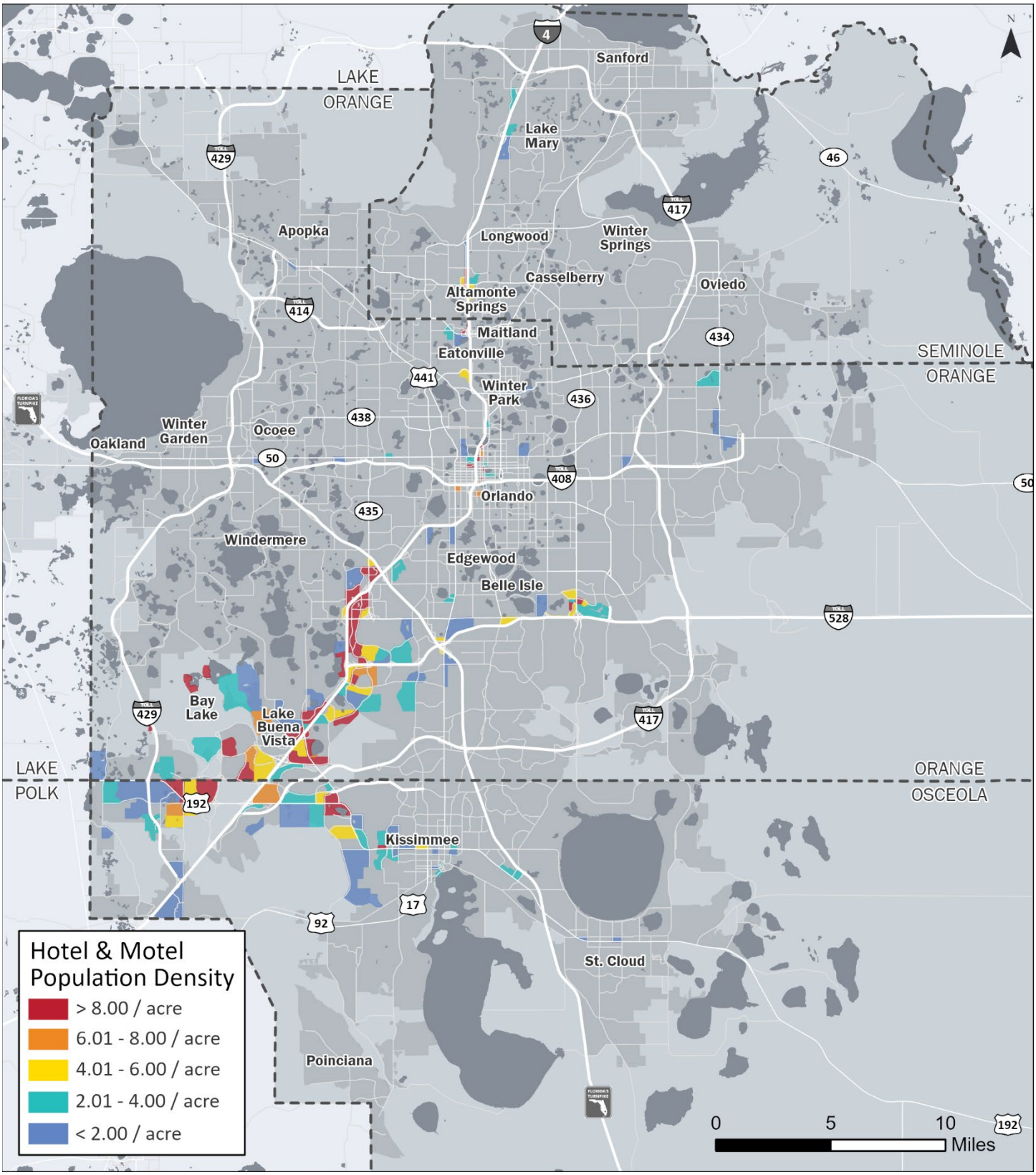


Source: Visit Orlando (2022)

Figure 54 on the following page shows the density of hotels and motels. This lodging density data equates to the approximate number of visitors present, on average.

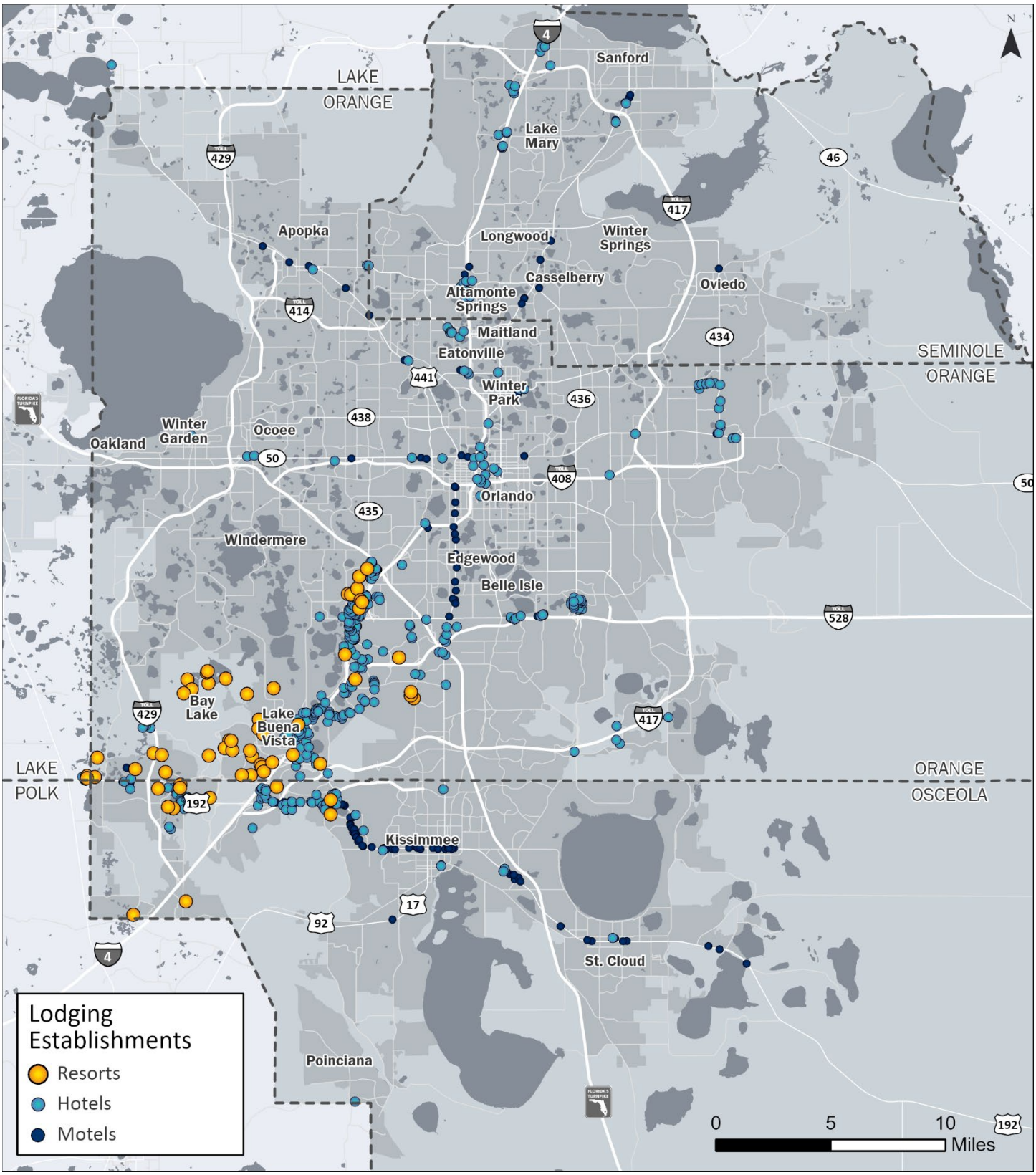
Figure 55 shows all lodging establishments within the region, excluding bed and breakfasts, and Figure 56 shows major attractions that are likely to be frequented by visitors.

Figure 54 | Visitor Population Density Per Acre



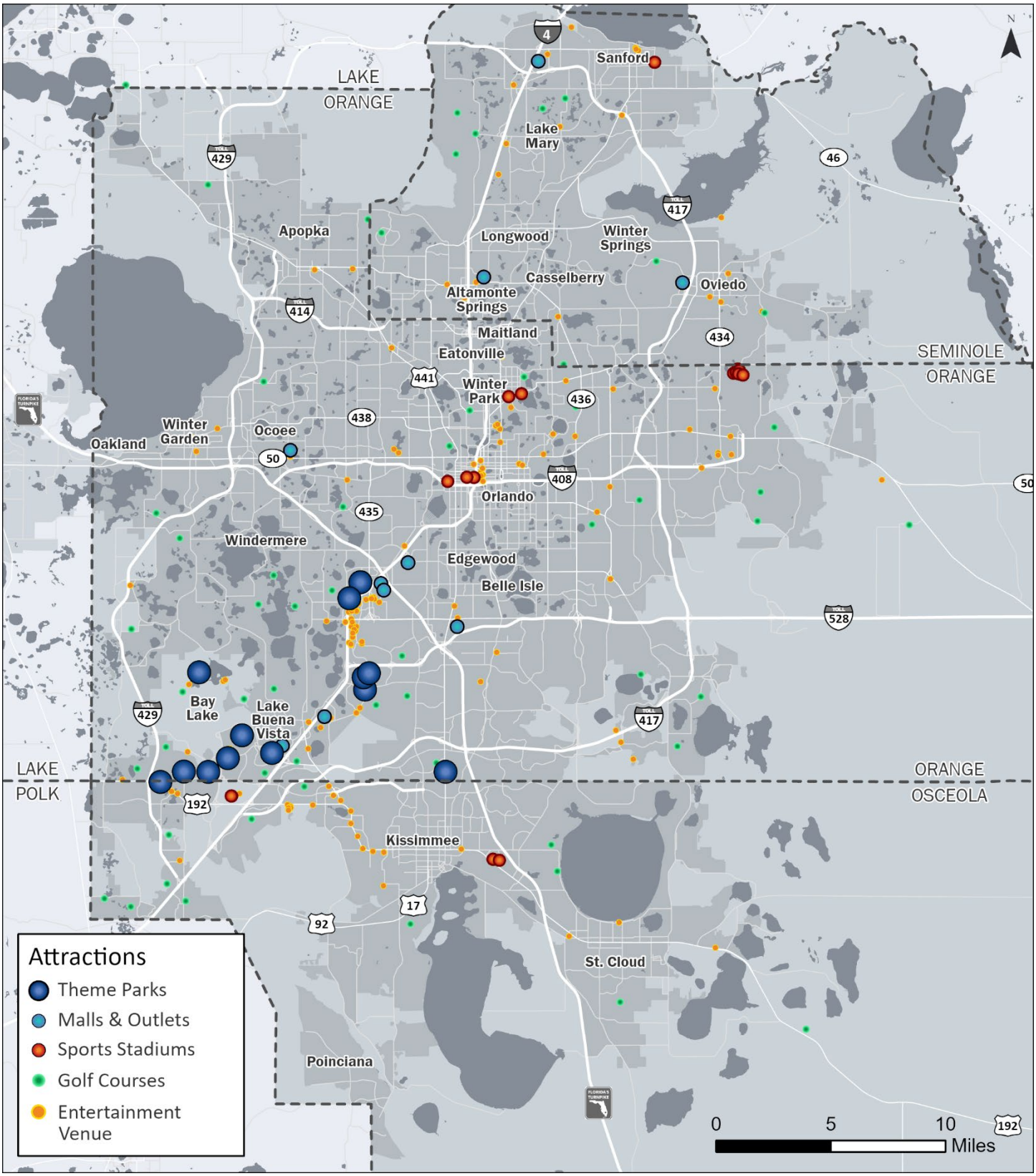
Source: Central Florida Regional Planning Model Traffic Analysis Zones, 2022

Figure 55 | Lodging Establishments



Source: xGeographic Wave, 2023

Figure 56 | Major Attractions & Entertainment Venues



Source: xGeographic Wave, 2023

2.6.2 ECONOMIC COSTS | HOURS AND COST OF DELAY PER CAPITA

While tourism is an economic boon to the region, the fluctuations in seasonal visitation can put pressure on the transportation system. These pressures may result in congestion and delays. There are economic costs associated with travel delays, and the Florida Department of Transportation (FDOT) tracks this data through hours of delay per capita and cost of delay per capita. Hours of delay per capita calculates the average number of hours of delay that a person experiences in the region, per year, and is shown in Figure 57. The cost of delay per capita multiplies this figure by an hourly rate of $22.90 based on FDOT figures for the Orlando region (as reported by FDOT). FDOT calculates this figure based on fuel costs and share of truck and passenger traffic on the state highway system. The cost of delay per capita can be seen in Figure 58.

Figure 57 | Annual Hours of Delay Per Capita (State Highway System)

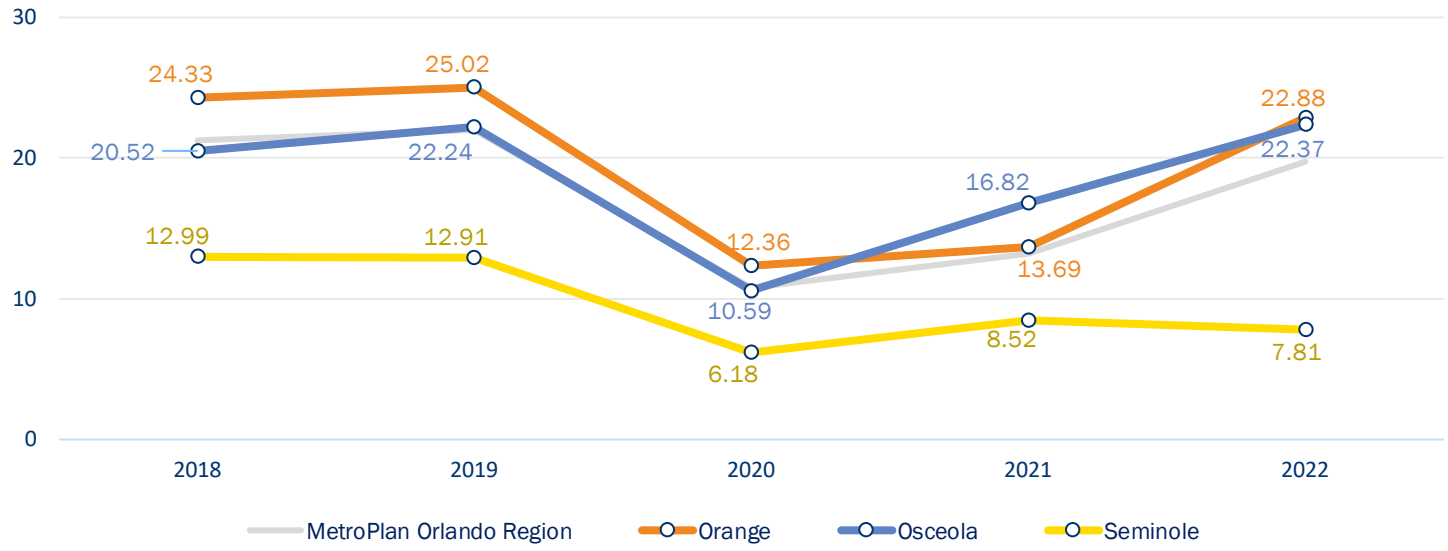
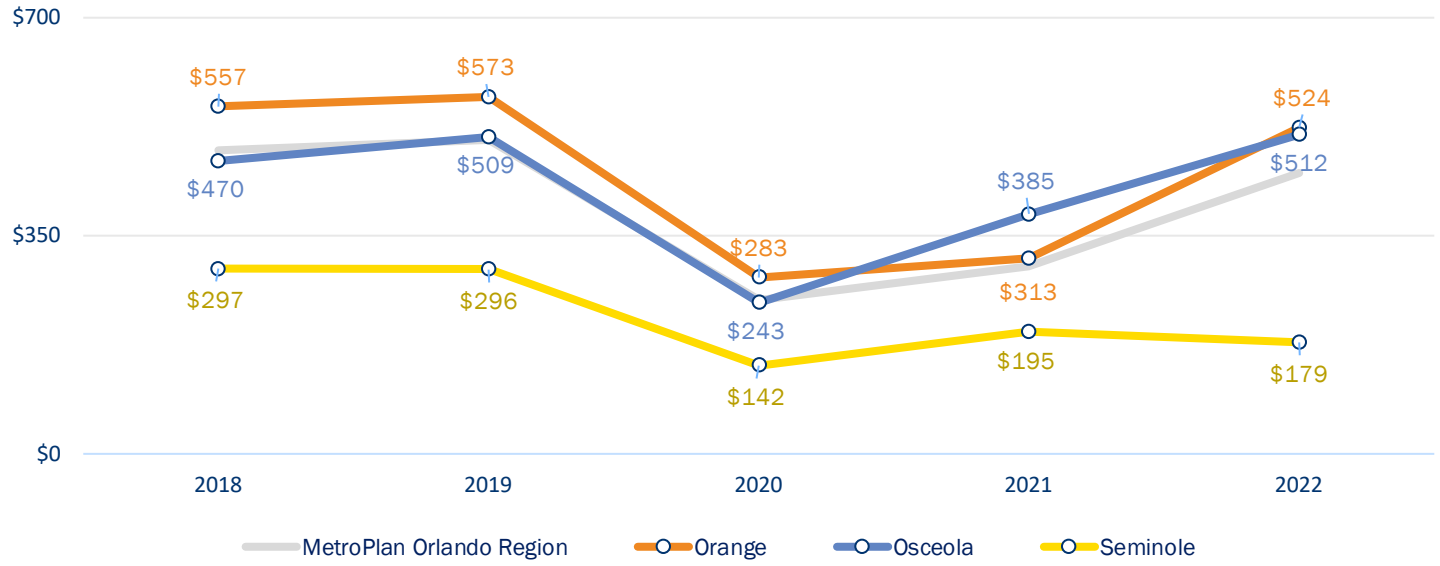


Figure 58 | Annual Cost of Delay Per Capita (State Highway System)



Source: Florida Department of Transportation, 2022 (Both Figures)

3 Area Profile

The Area Profile provides detailed information on the community composition of the region and a snapshot of the infrastructure assets that help residents and visitors get around.

3.1 LAND USE & ACTIVITY CENTERS

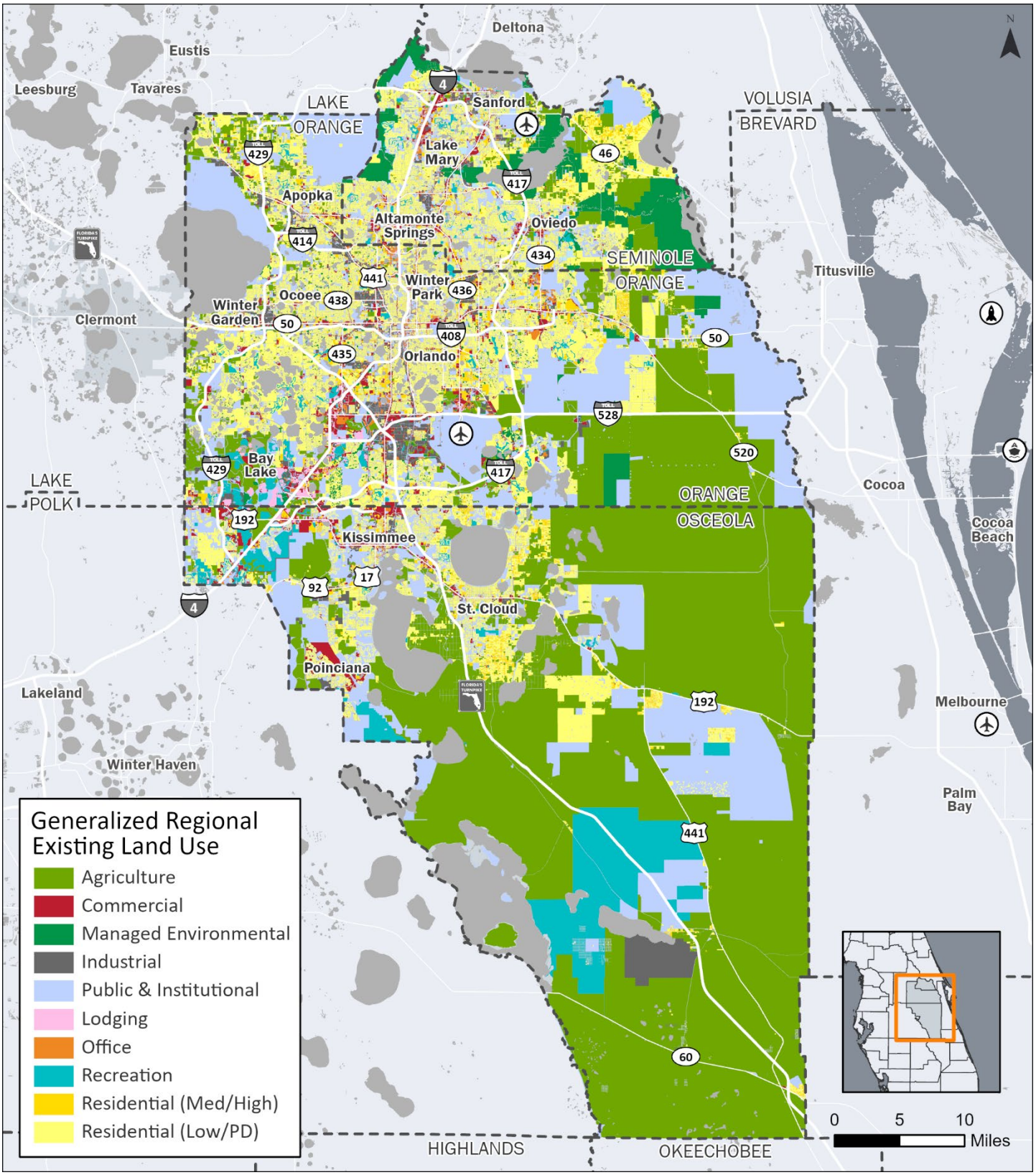
Development patterns provide insight into the strength of the construction sector, the pace of residential and commercial development, and show where growth is occurring. Current land uses showcase how Central Florida has developed to date, as shown in Figure 59. The region is a mixture of intense commercial development, concentrated residential use, agricultural land use, and undevelopable land due to different environmental factors. Green spaces and undevelopable land uses within the region limit some of the availability of land for development. These provide extensive areas for recreational use outside of the urban core.

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 have increased around these tourist areas, more affordable residential communities, industry, and retail businesses have expanded into previously-undeveloped areas on the fringes of the urban boundary.

Some of the key regional activity centers in the region are displayed in Figure 61 and serve as hubs of entertainment, employment and leisure. Many of these areas are hot spots for visitors to the region, including many on the Walt Disney World property and in the International Drive area. Other activity centers include but are not limited to historic downtowns, major shopping centers, state parks and springs, and the University of Central Florida.

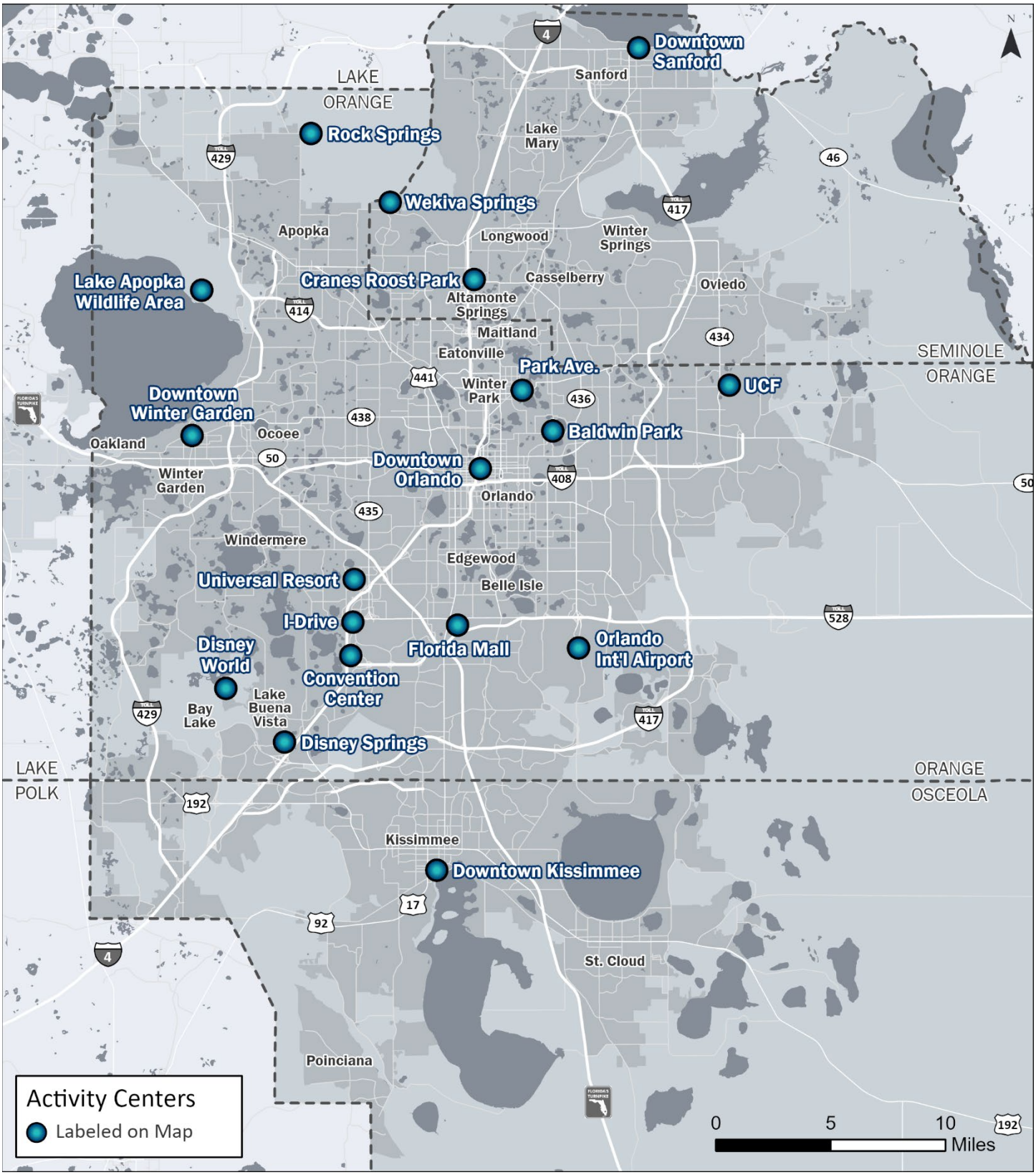
The current land uses serve as the foundation from which we will build our future infrastructure. Future land uses can show the general plan for development and growth, and these future land uses can be seen in Figure 60.

Figure 59 | Generalized Existing Land Use



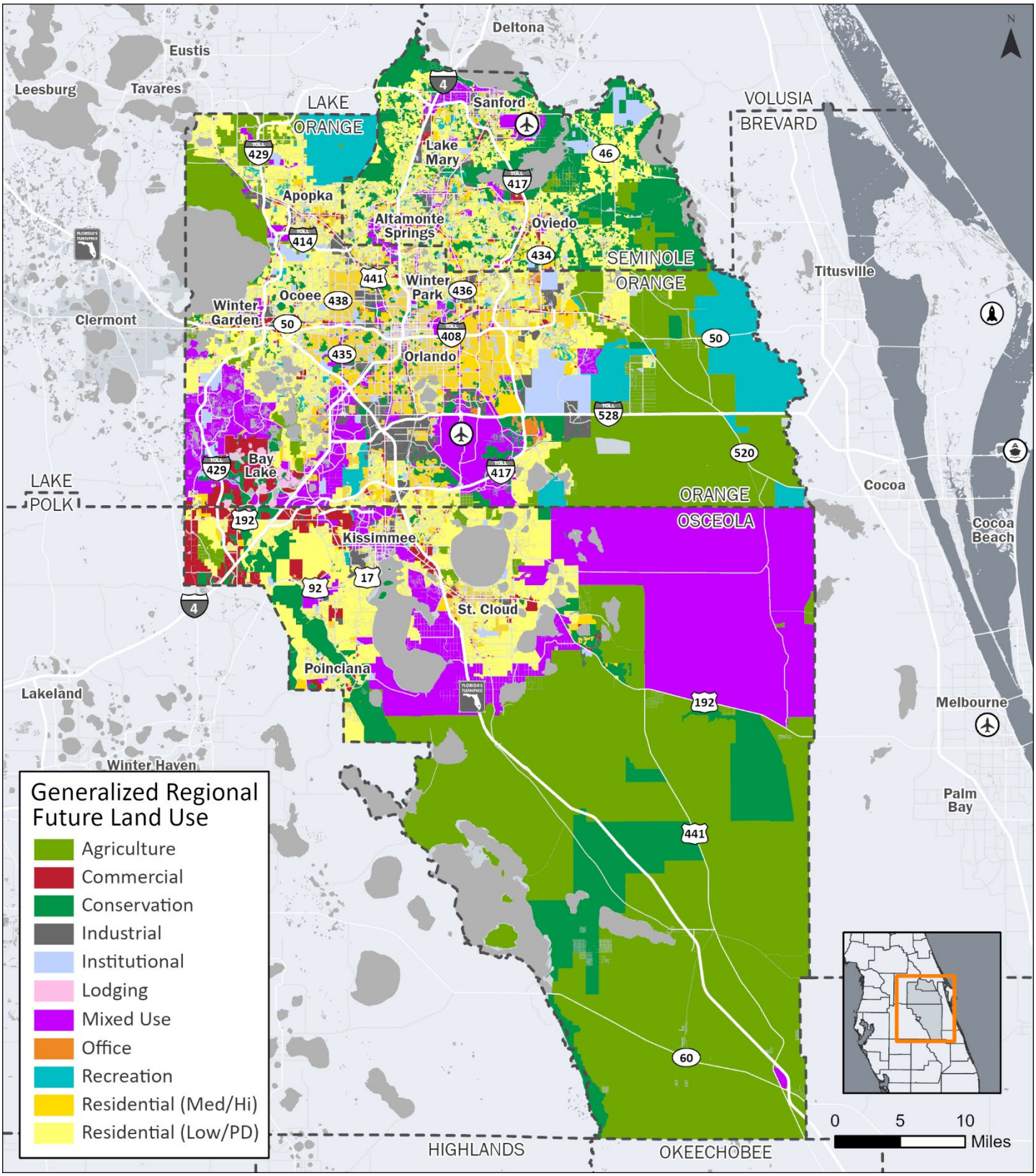
Source: East Central Florida Regional Planning Council via Florida Department of Revenue, 2023

Figure 60 | Regional Activity Centers



Source: MetroPlan Orlando, 2023

Figure 61 | Generalized Future Land Use



Source: East Central Florida Regional Planning Council via Municipalities, 2023

3.2 PARKS, CONSERVATION AREAS, & FLOOD ZONES

Parks, conservation areas and flood zones are important to the environmental health of the region and provide recreational activities for residents and visitors alike. The maps in this section show public parks and private/Home Owner Association (HOA) parks, proximity to parks, conservation lands, mitigation banks, and 100-year flood zones within the urbanized region. Figure 62 shows a map of all public and private parks, and Figure 63 shows the proximity of those parks to the region's transportation network.

Parks provide recreational and a host of potential uses. Managed lands are 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. 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. These managed lands and mitigation banks can be seen in Figure 64.

Some of the larger preservation areas include Wekiva Springs State Park in Orange and Seminole County, the Lake Jessup Conservation Area in Seminole County, the Tosohatchee State Reserve, the Rock Springs Run State Reserve in Orange County, and the 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.

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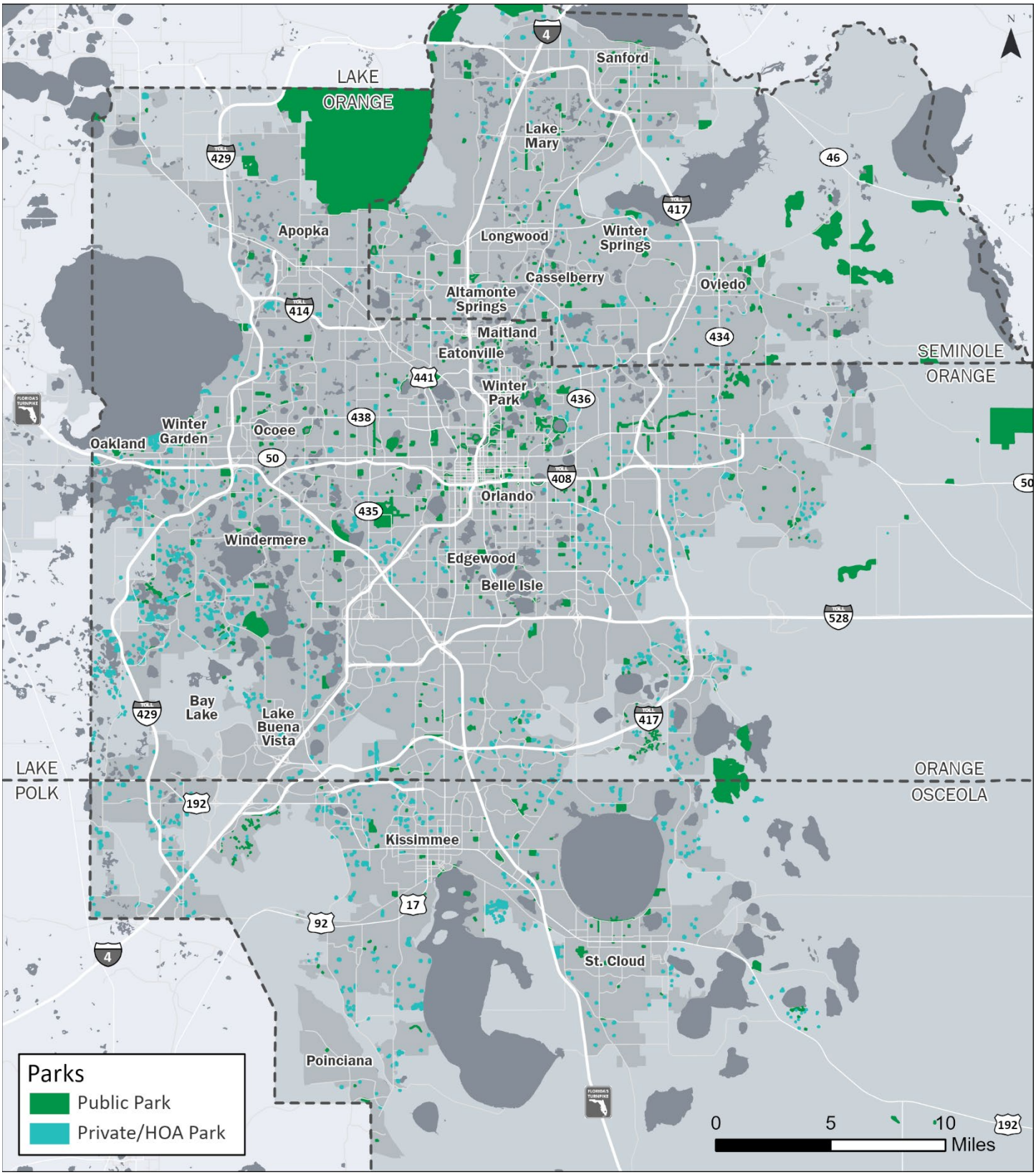
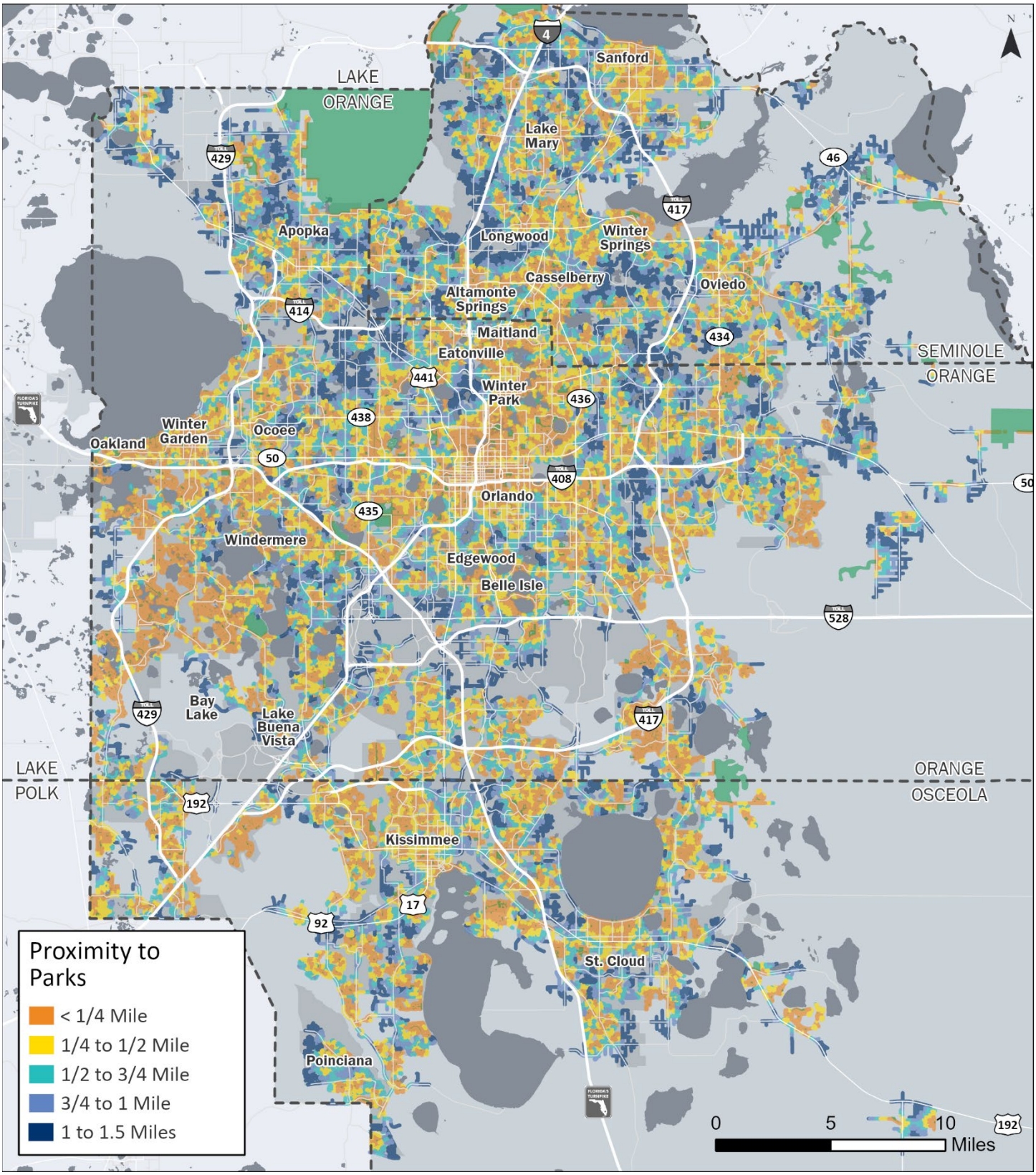
Figure 62 | Public and Private Parks



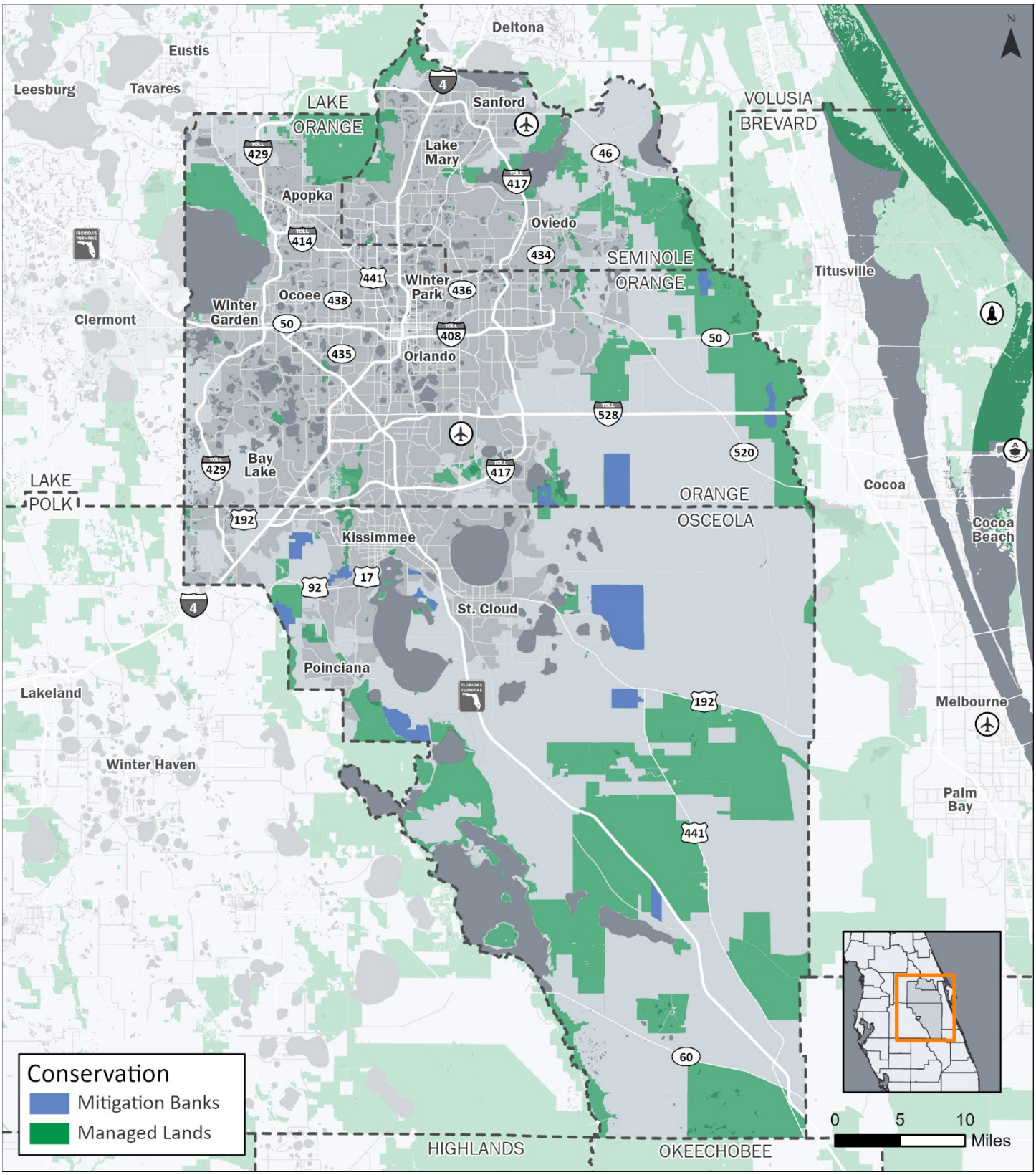
Source: xGeographic Wave, 2023

Figure 63 | Proximity to Public and Private Parks



Source: xGeographic Wave, 2023

Figure 64 | Conservation Areas



Source: Florida Natural Areas Inventory, 2023 (Conservation); FDEP, 2023 (Mitigation Banks)

3.2.1 FLOOD ZONES

Due to the nature of scenic lowlands and water features, many of Central Florida's parks and conservation zones are located within 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 65 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.

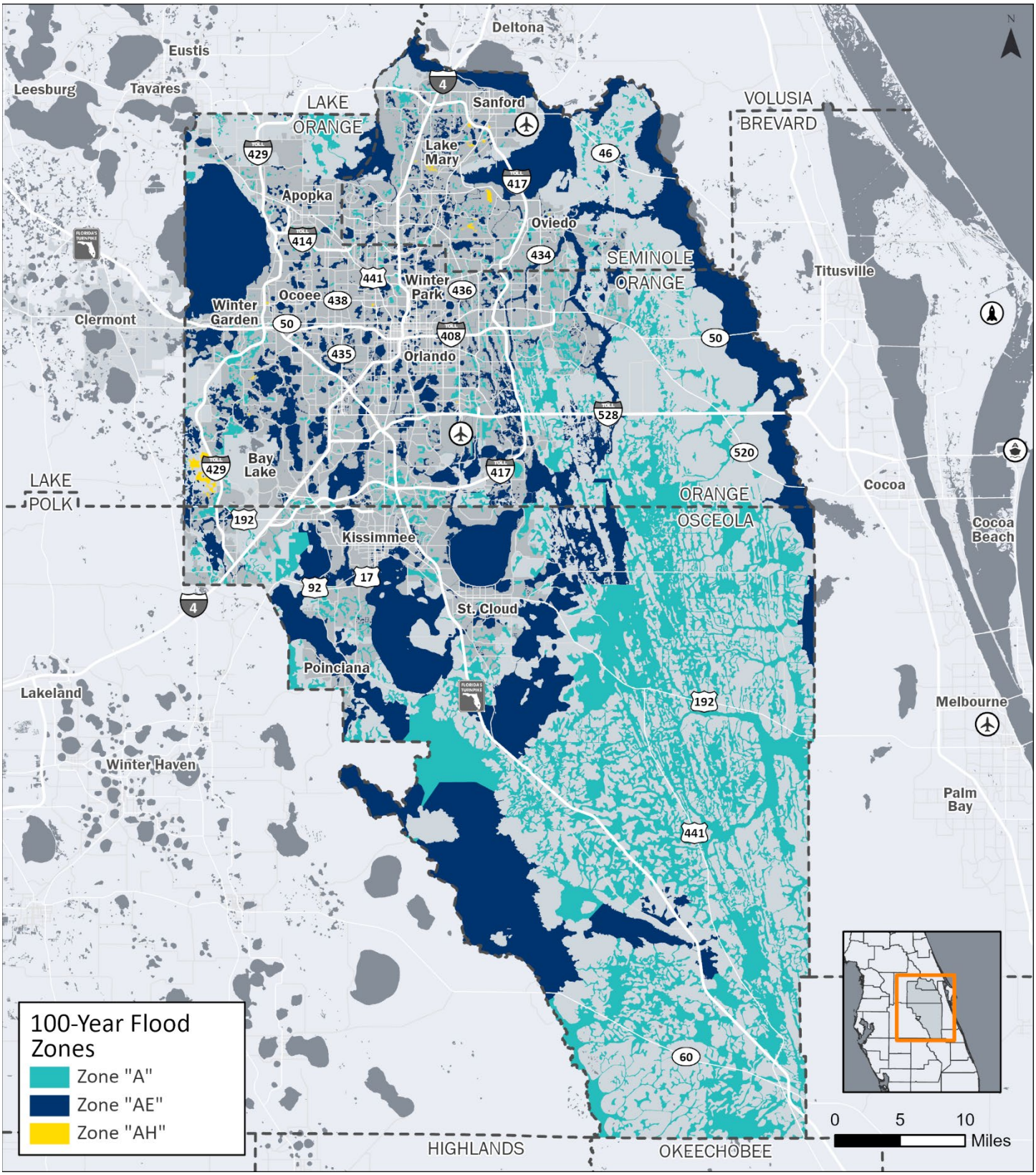
- Zone AE: The base floodplain where base flood elevations are provided. These areas have a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage.

- 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 AO: River or stream flood hazard areas, and areas with a 1% of greater chance of shallow flooding each year, usually in the form of sheet flow, 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. Average flood plain depths derived from detailed analyses are shown within these zones.

- Zone X: Areas with a 0.2% annual chance of shallow flooding. This zone is also referred to as the 500-year floodplain and is not shown in Figure 65.

Figure 65 | FEMA Flood Zones (100-Year Floodplain)



Source: Federal Emergency Management Agency (FEMA), 2023

3.3 DEMOGRAPHICS AND SOCIOECONOMICS

This section includes a comprehensive map series that highlights numerous demographic and socioeconomic indicators from a wide range of sources. These indicators help in reviewing the specific characteristics and needs of different portions of the region.

3.3.1 DEMOGRAPHIC DISTRIBUTION

Figure 66 depicts the distribution of demographic groups within the region. Each dot represents 50 people of that respective demographic group.

3.3.2 TRANSPORTATION DISADVANTAGED COMMUNITIES

Transportation Disadvantaged communities are areas and communities that are at-risk to factors including transportation insecurity, extreme weather and disaster risk burdens, environmental and air quality burdens, health vulnerabilities, and social vulnerabilities. These vulnerabilities and burdens may result in residents requiring additional assistance getting around, relying on more transit, or having access to one or fewer cars in their household. Figure 67 shows Transportation Disadvantaged communities in the region.

3.3.3 AREAS OF PERSISTENT POVERTY

The Areas of Persistent Poverty designation was established as part of the 2021 Bipartisan Infrastructure Law. Areas of persistent poverty have had a measured poverty rate of at least 20% for an extended period of time, typically at least five to ten years. People within these areas may rely more heavily on transit and non-automobile transportation, such as walking and biking. Figure 68 shows Areas of Persistent Poverty in the region.

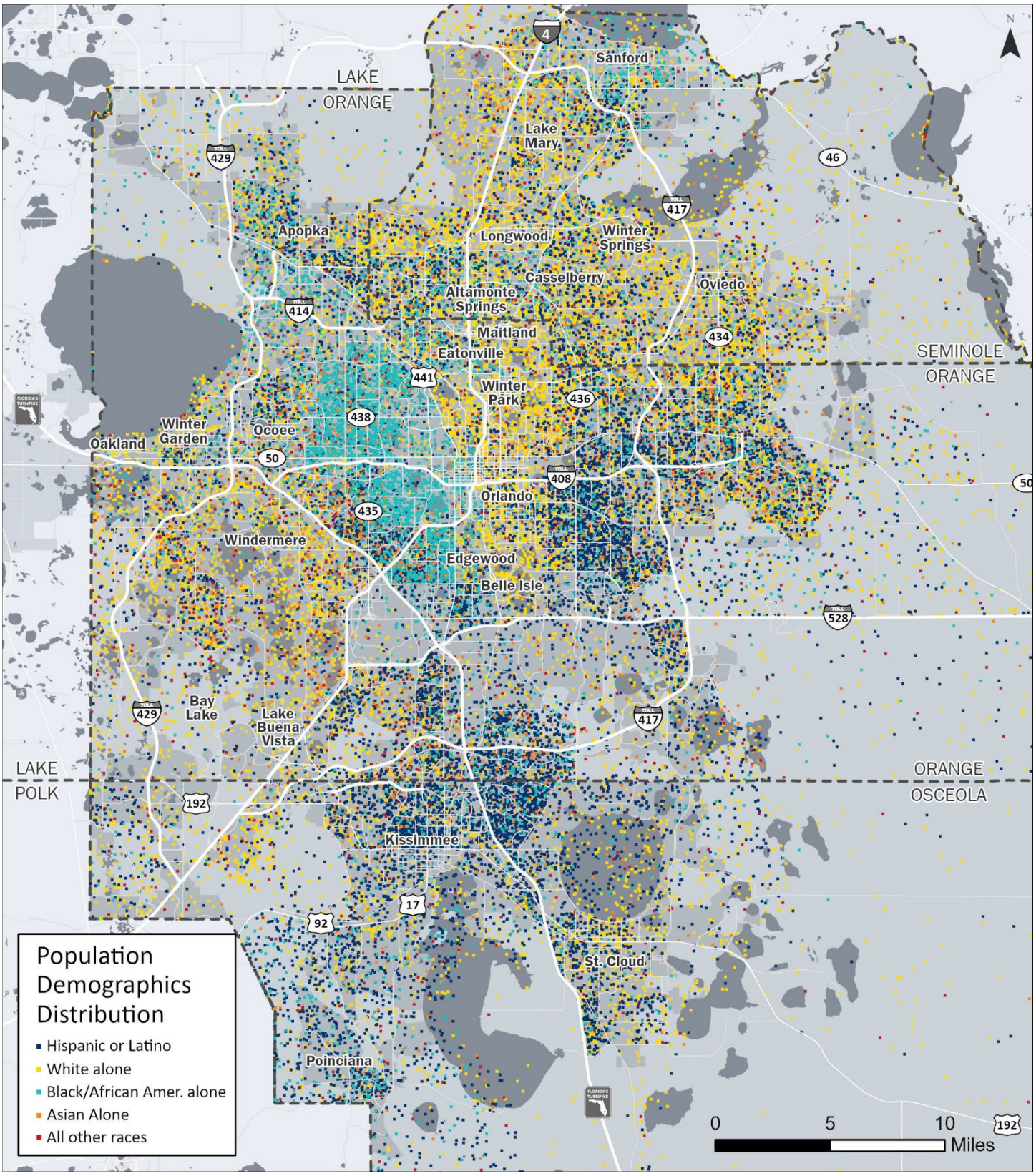
3.3.4 TAPESTRY LIFEMODES

ESRI's Tapestry LifeModes is a themed map that provides detailed descriptions of neighborhoods in the United States. The LifeModes are created by determining neighborhood characteristics based on demographic and socioeconomic variables. Figure 69 depicts these areas in the region.

3.3.5 MEDIAN HOUSEHOLD INCOME

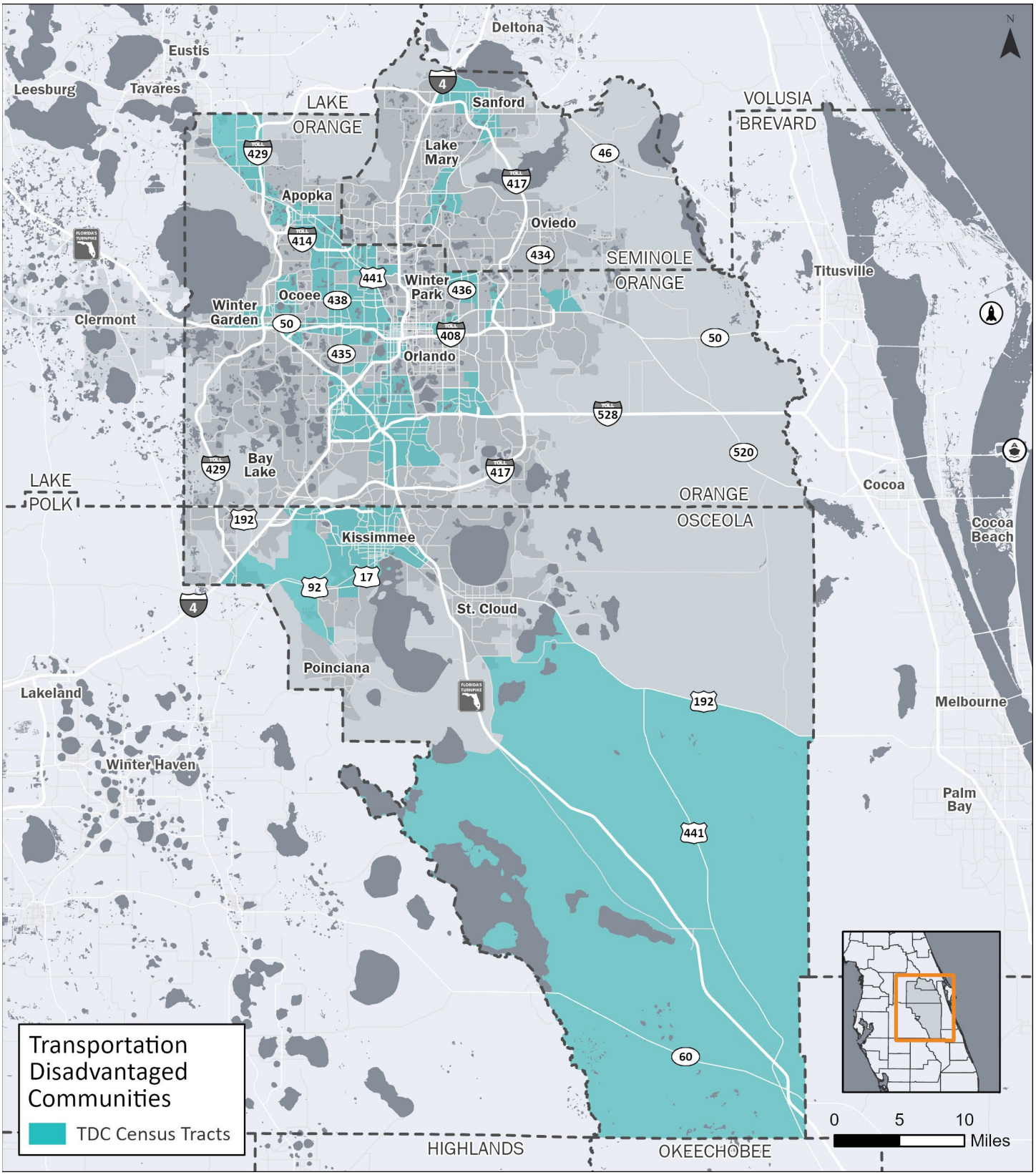
Median household income data is developed by the U.S. Census Bureau and is one of the main demographic factors that determine how at-risk a community may be to transportation-related issues. Figure 70 depicts this metric.

Figure 66 | Demographic Distribution



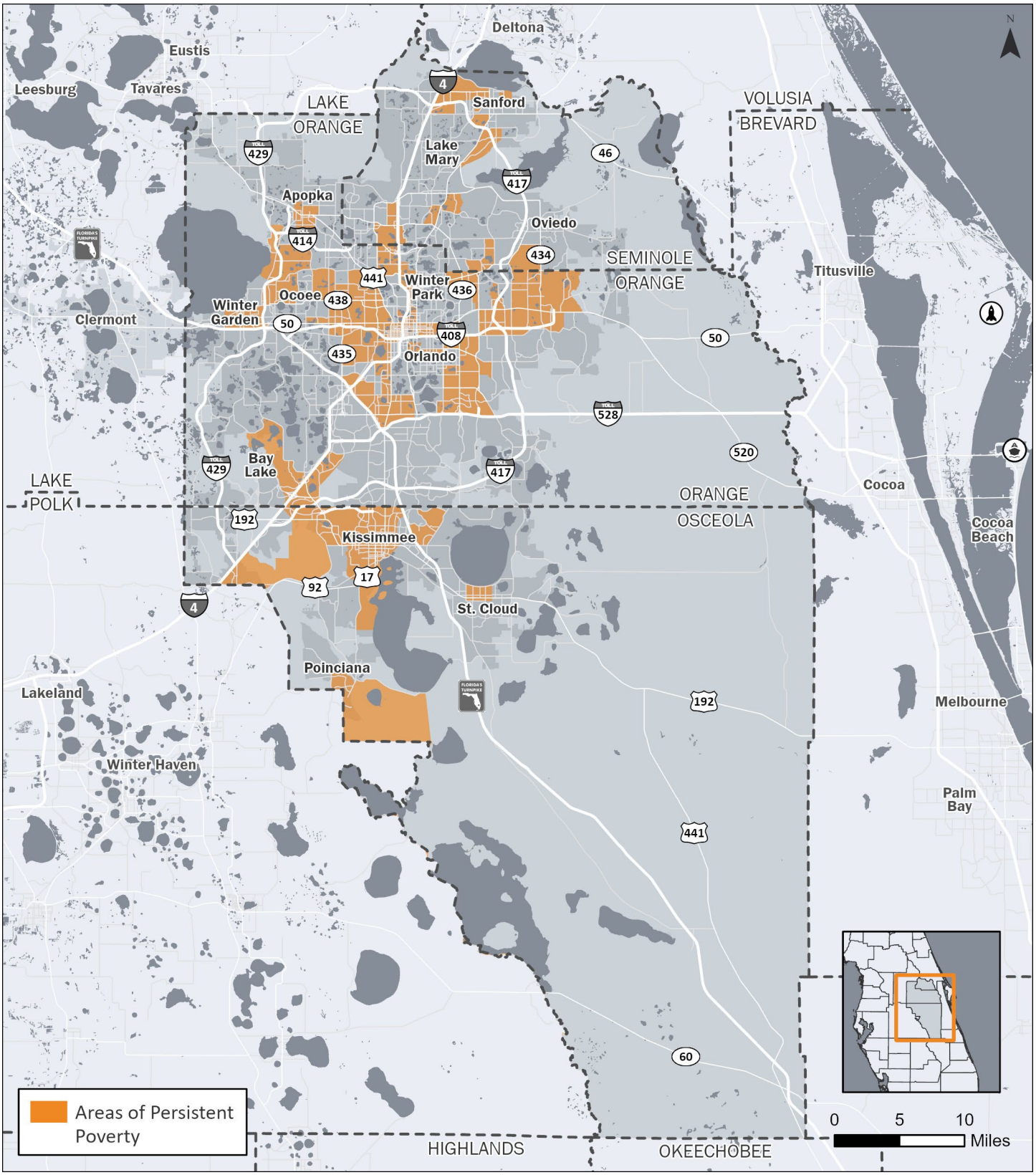
Source: U.S. Census Bureau, 2022

Figure 67 | Transportation Disadvantaged Communities



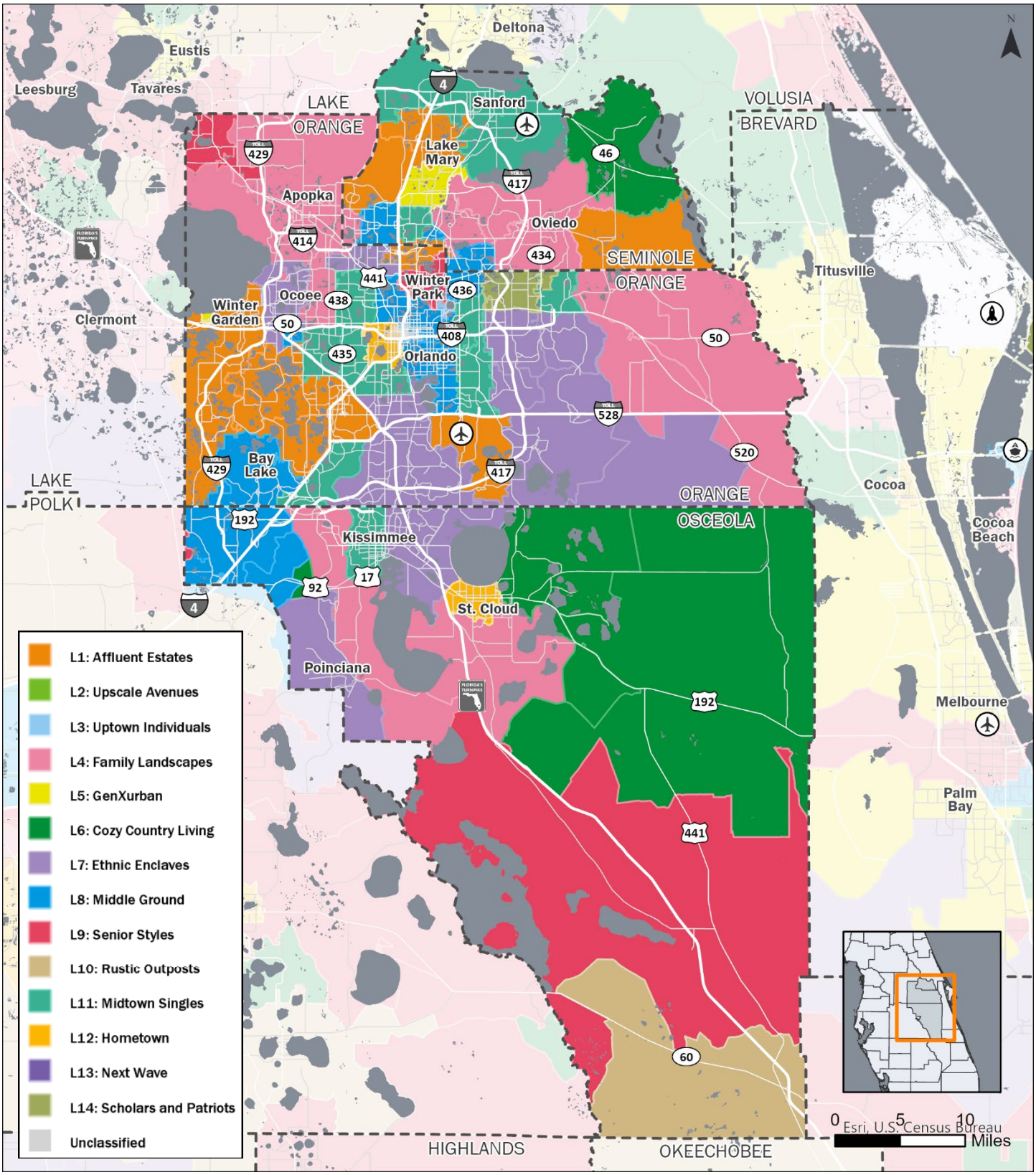
Source: U.S. Census, 2022 (Latest)

Figure 68 | Areas of Persistent Poverty



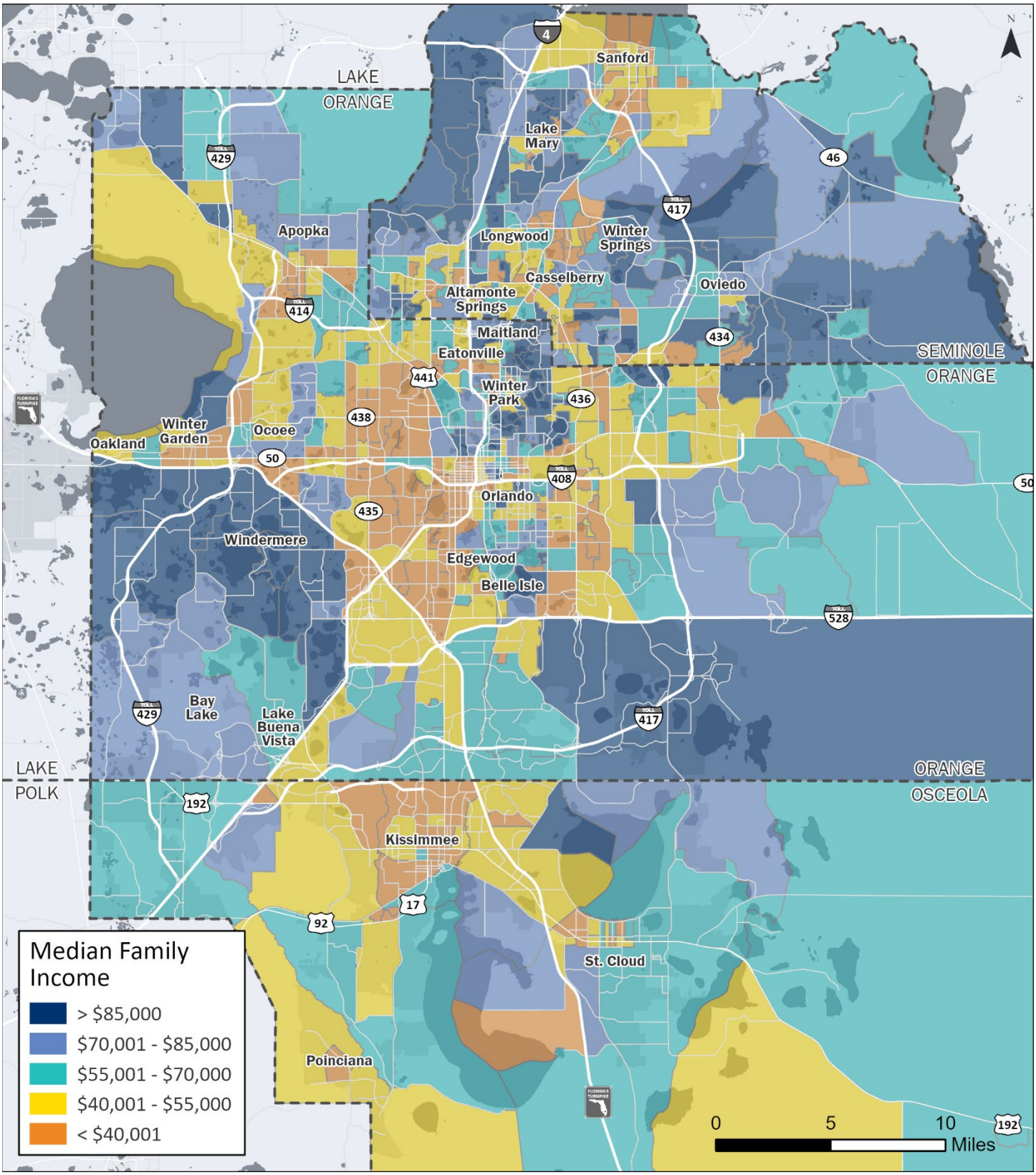
Source: U.S. Department of Transportation, 2020 (Latest)

Figure 69 | Tapestry LifeModes



Source: ESRI, 2023

Figure 70 | Median Household Income



Source: U.S. Census Bureau ACS, 2018-2022

3.4 ROADWAYS

Roadways handle the bulk of transportation-related needs in the region. This section of the report provides information and a map series related to existing roadways and roadway-related infrastructure.

3.4.1 NATIONAL & STATE HIGHWAY SYSTEMS

The national and state highway systems, managed by the U.S. and Florida Department of Transportation, are closely monitored to gauge travel patterns and roadway reliability. Within the region, the National Highway System (NHS) consists of 776 miles of roadway, while the State Highway System (SHS) consists of 729 miles of roadway.

3.4.2 STRATEGIC INTERMODAL SYSTEM

The Strategic Intermodal System (FDOT) is a critical network of infrastructure that ties the roadway system in with passenger rail, freight, and air travel. The region has numerous critical hubs across these domains, and Port Canaveral is located just to the east of the region in Brevard County. Figure 71 shows SIS airports, strategic growth airports, strategic growth freight terminals, passenger terminals, and strategic growth passenger terminals.

3.4.3 NATIONAL & REGIONAL FREIGHT NETWORK

The region is located at the crosshairs of a larger statewide network that connects freight to other large urban areas. Three national freight network corridors, Interstate-4, Florida's Turnpike, and State Road 528 intersect in south central Orange County and connect freight to Tampa Bay, Miami, Jacksonville, and urban areas along the Atlantic coast. The national freight network is shown alongside the regional freight network in Figure 72.

3.4.4 FUNCTIONAL CLASSIFICATION

Functional classification is a tiered system of arterial and collector roadways originated by the U.S. Department of Transportation that classifies roads by factors such as their traffic volumes and importance to the overall network. The following list defines the various Federal Functional Classifications, and a map showing functional classification of our region's road network can be found in Figure 73.

- **Principal Arterials** – Arterials serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Some may be limited access (all crossings separated by grade), and some may have at-grade intersections to serve other roadways and services.
- **Minor Arterials** – These are used for trips of moderate distance and slower speeds than principal arterials.
- **Major Collectors** – Collectors help "collect" traffic from local roads and funnel them to arterial roads. Compared to arterial roads, major collectors will have slower speeds, less traffic, and allow more access directly from neighborhood roads.
- **Minor Collectors** – These are used to connect neighborhoods to arterials or major collectors. However, unlike major collectors, they tend to be shorter, have fewer lanes, and can have driveways directly connect to them.

3.4.5 CONTEXT CLASSIFICATION

Context classification is a newer system that the Florida Department of Transportation has developed to classify roads based on the urban context of the area in which they operate. C1 is the lowest-intensity classification, consisting of roads traveling through rural areas, while C6 is the highest-intensity classification, consisting of roads traveling through high intensity urban areas. Figure 74 shows preliminary context classifications developed by MetroPlan Orlando as part of the Speed Management Network Analysis in 2022. The following defines the various FDOT context classifications, and a map showing context classification in our region can be found in Figure 3-44.

- **C1 / Natural** - Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.
- **C2 / Rural** - Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.
- **C2T / Rural Town** - Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.
- **C3R / Suburban Residential** - Mostly residential uses within large blocks and a disconnected or sparse roadway network.
- **C3C / Suburban Commercial** - Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.
- **C4 / Urban General** - Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.
- **C5 / Urban Center** - Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of a civic or economic center of a community, town, or city.
- **C6 / Urban Core** - Areas with the highest densities and building heights, and within FDOT classified Large Urbanized Areas (population greater than one million). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadway, and are within a well-connected roadway network.

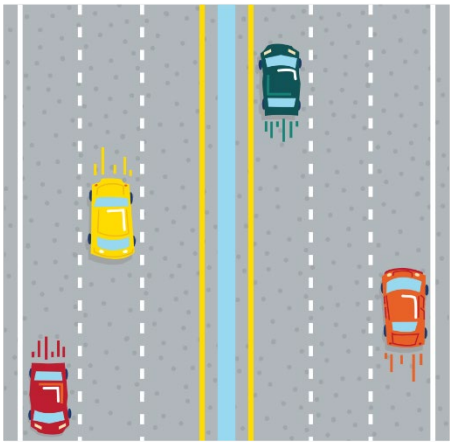
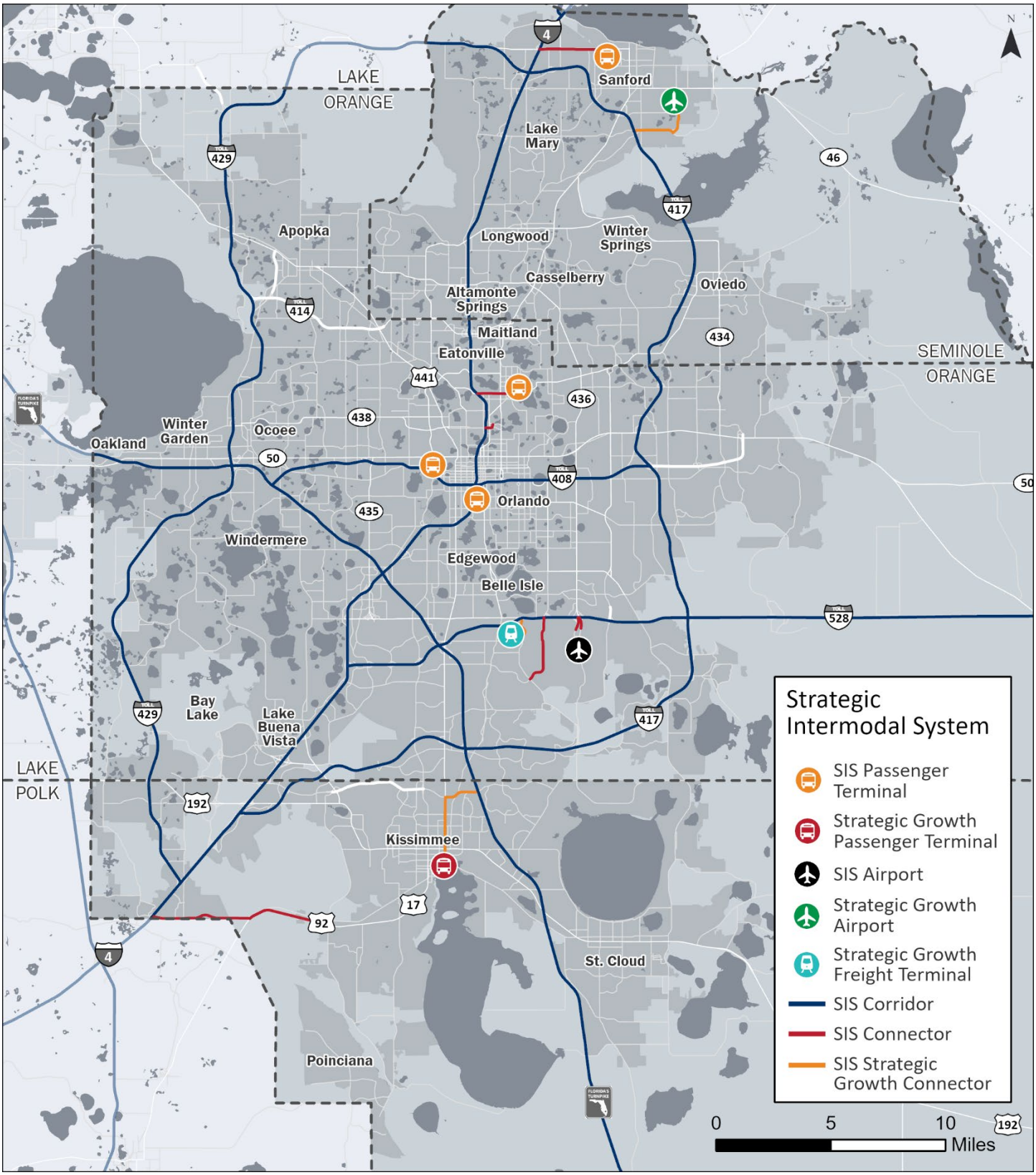
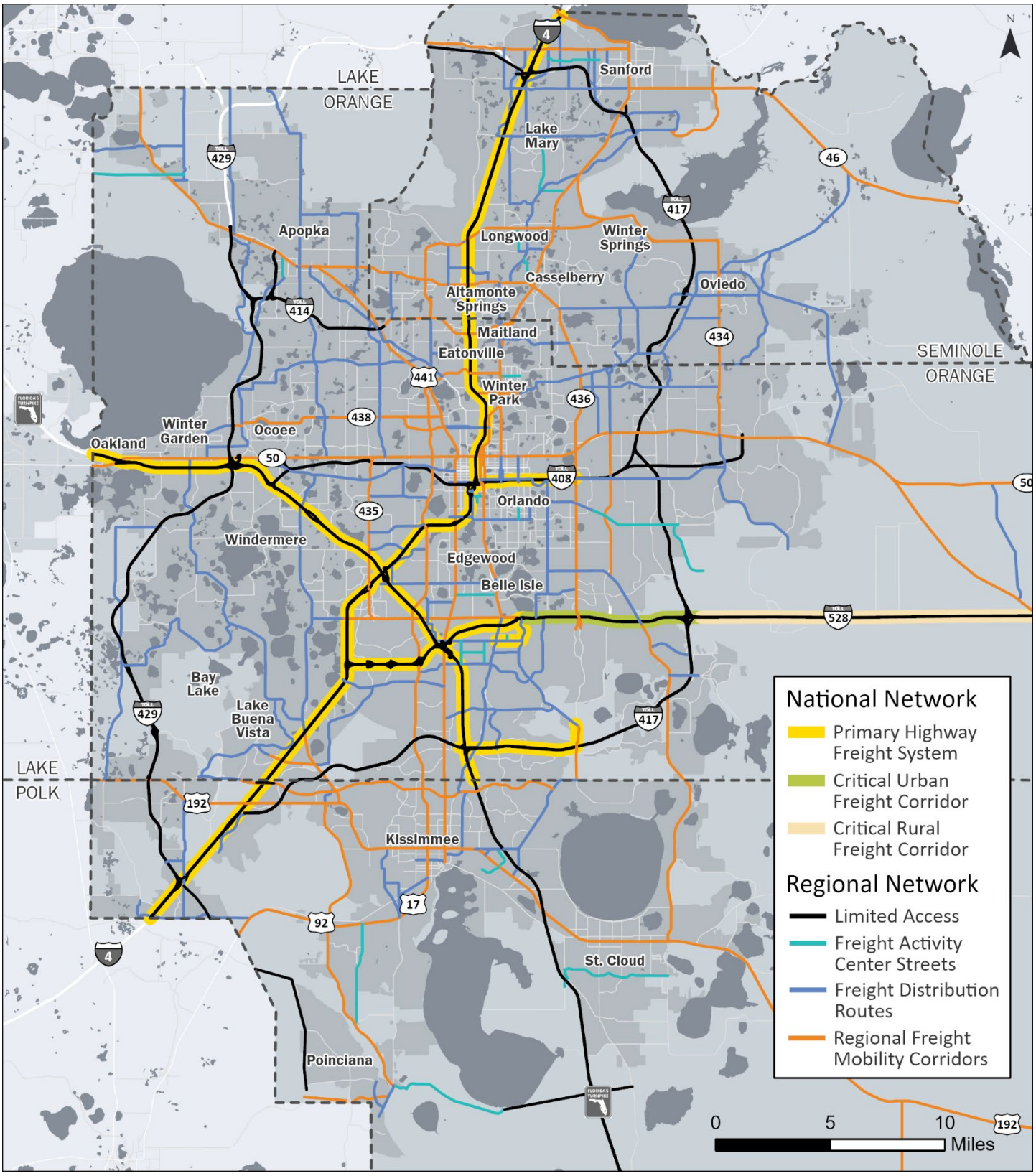


Figure 71 | Strategic Intermodal System



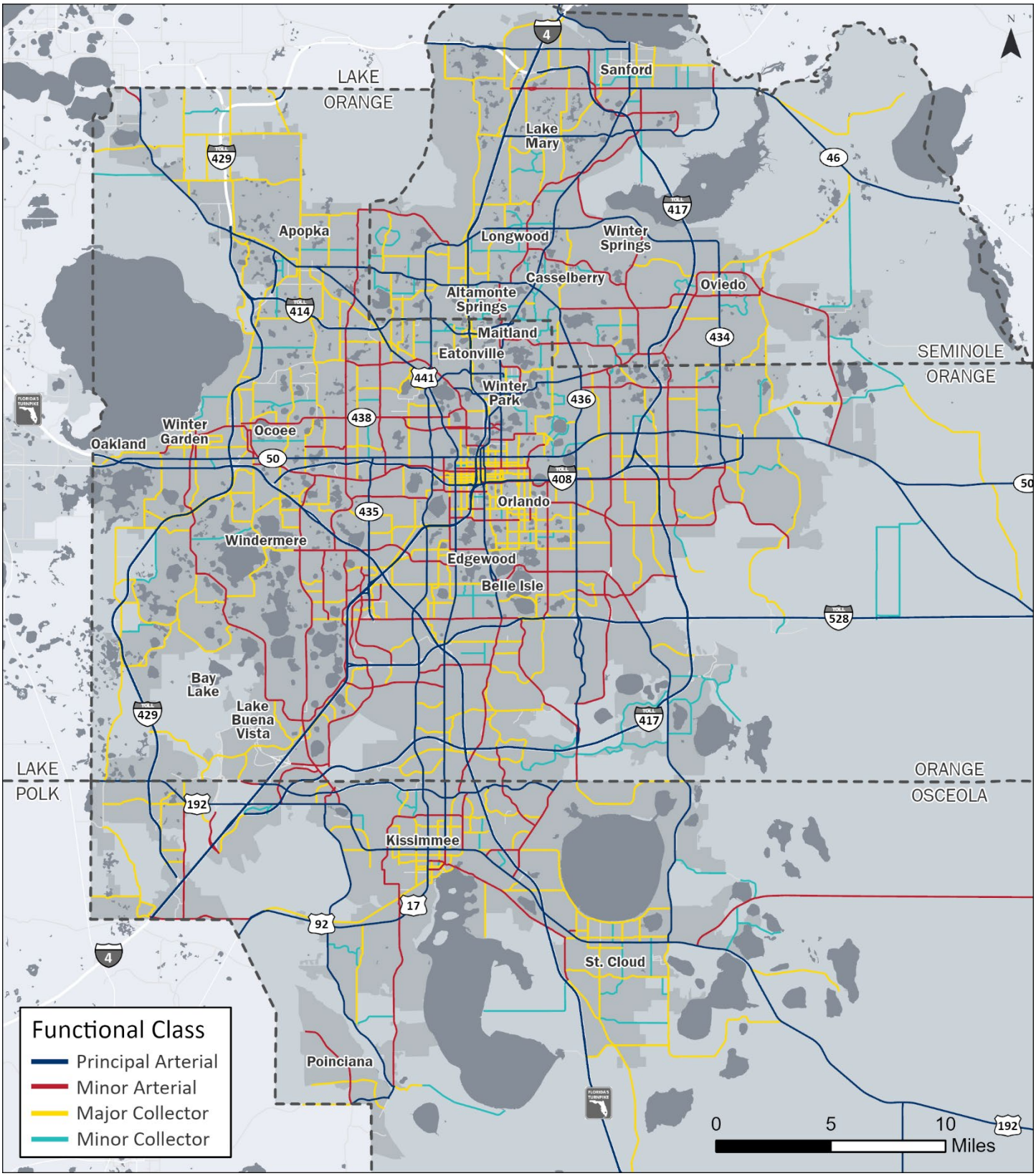
Source: Florida Department of Transportation, 2023

Figure 72 | National & Regional Freight Networks



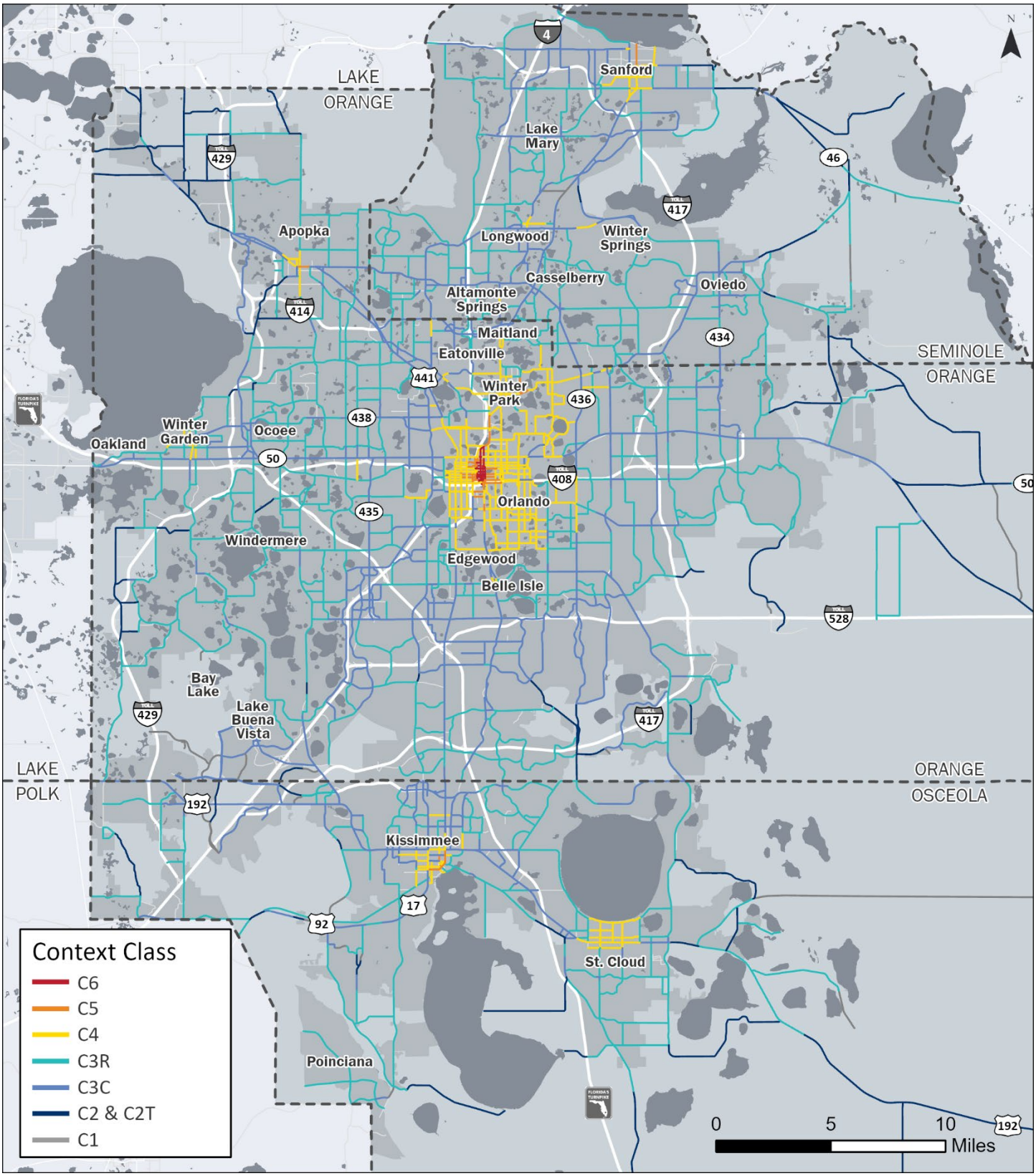
Sources: U.S. Department of Transportation (National), 2023; MetroPlan Orlando, 2023 (Regional)

Figure 73 | Functional Classification



Source: Florida Department of Transportation, 2023

Figure 74 | Context Classification



Source: MetroPlan Orlando Speed Management Network Analysis, 2022

3.4.6 ROADWAY FEATURES

This portion of the Area Profile includes statistics and maps relating to posted speed limits and lane counts in the MetroPlan Orlando region.

Figure 75 shows the region's roadways organized by speed limits. Local streets with speed limits below 30 miles per hour are not depicted, as they account for 8,643 miles of roadway. Figure 77 shows this data in map form.

Figure 76 shows the regional breakdown of lane counts and shows that the vast majority of roadways in the region have five or less lanes. Including local roadways, 9,450 miles of roadway have two travel lanes. Figure 78 shows this data in map form.

Figure 75 | Posted Speed Limit Mileage, Excluding Limited Access Roadways

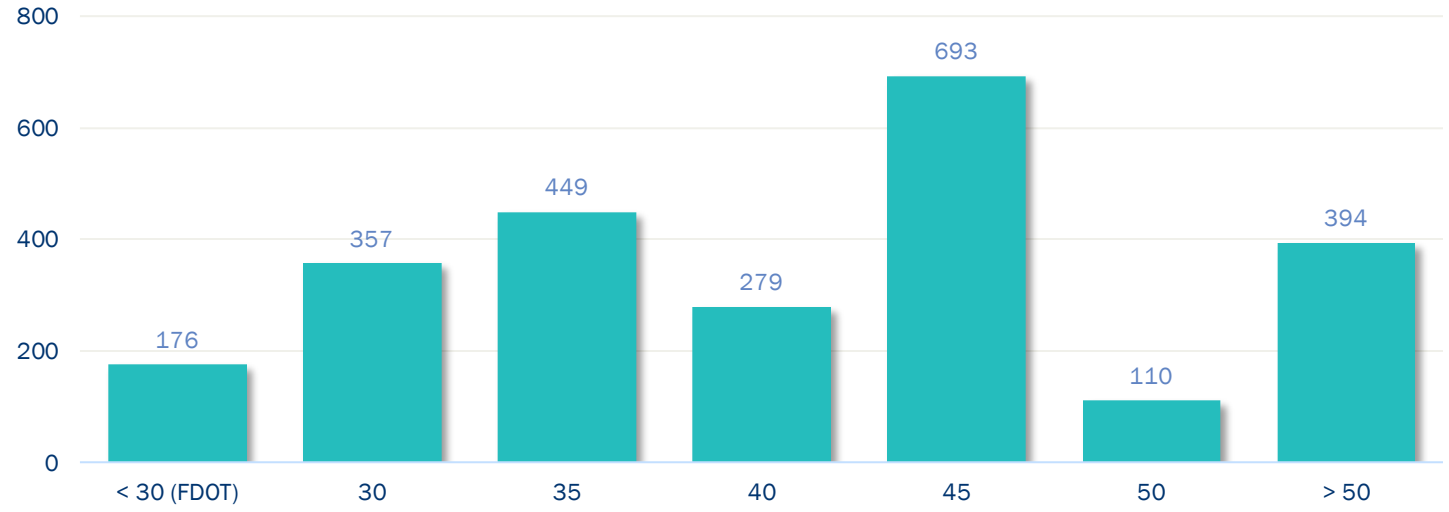
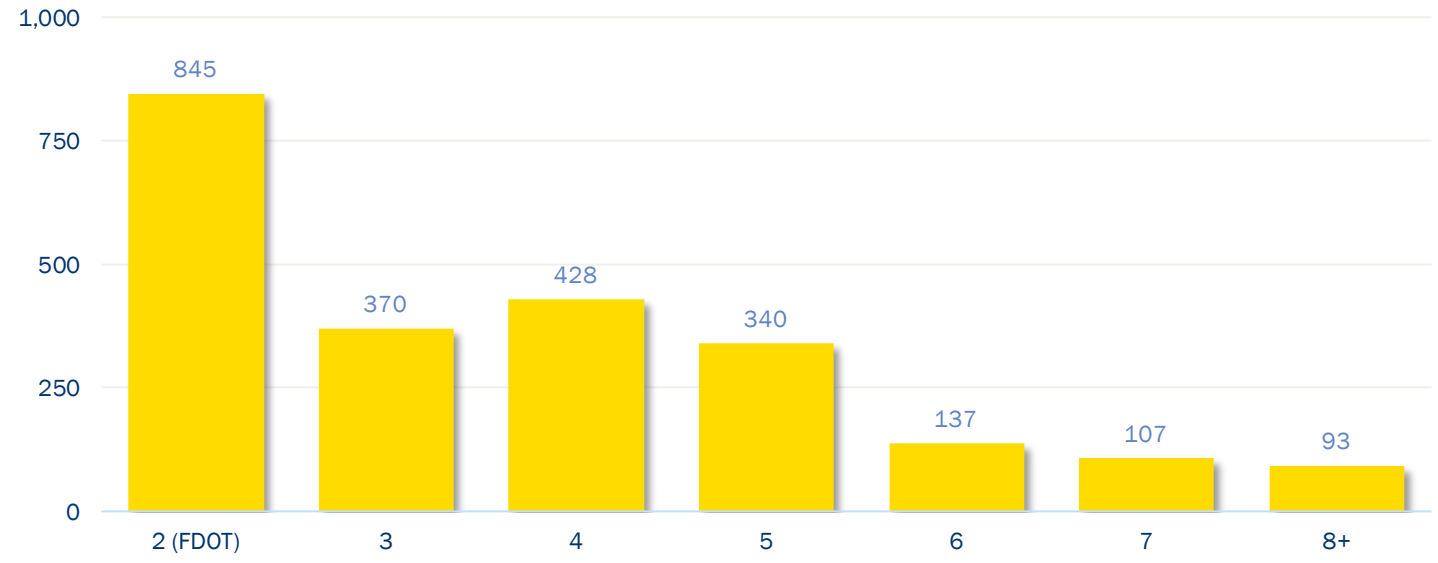
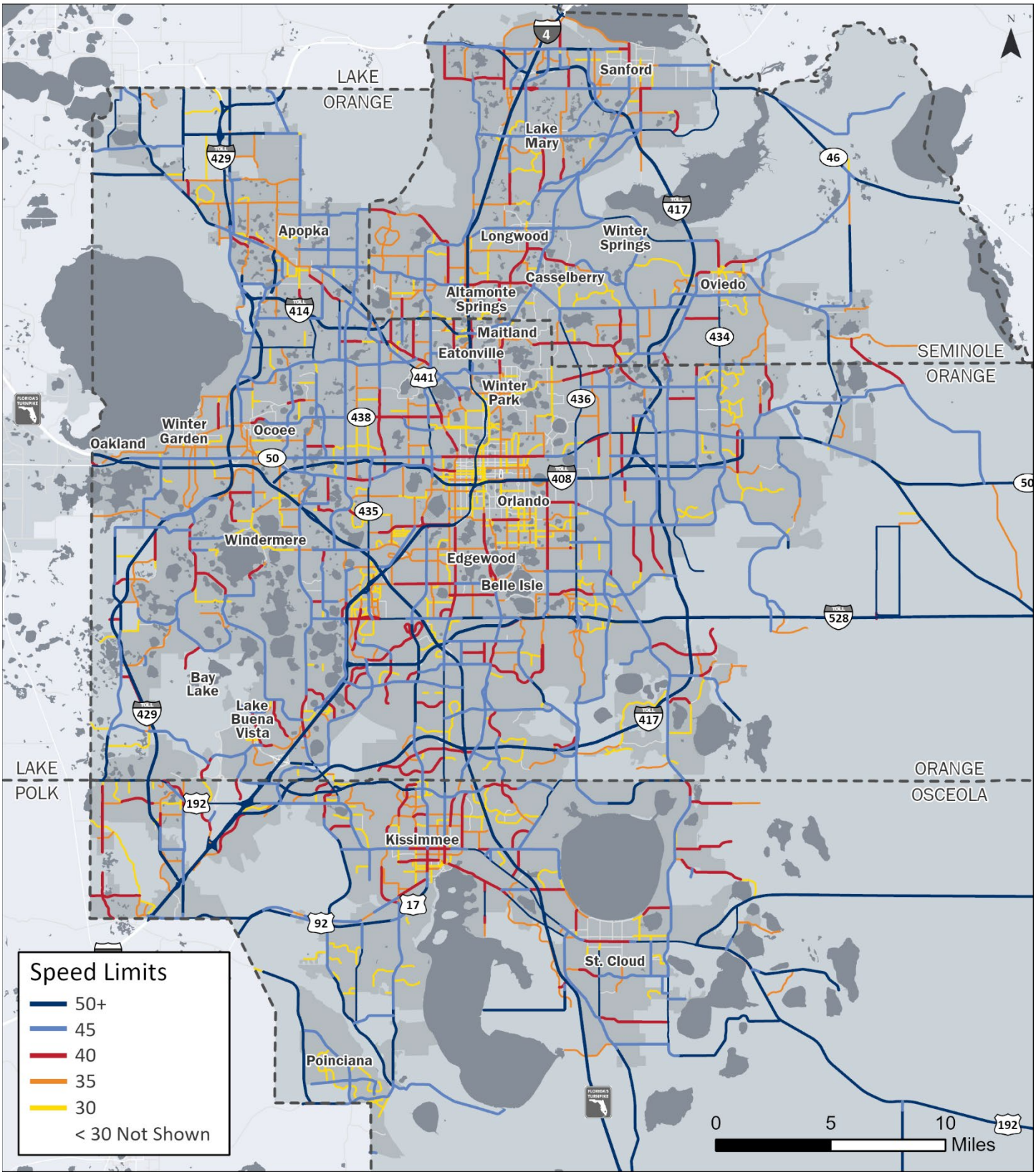


Figure 76 | Total Lane Mileage, Excluding Limited Access Roadways



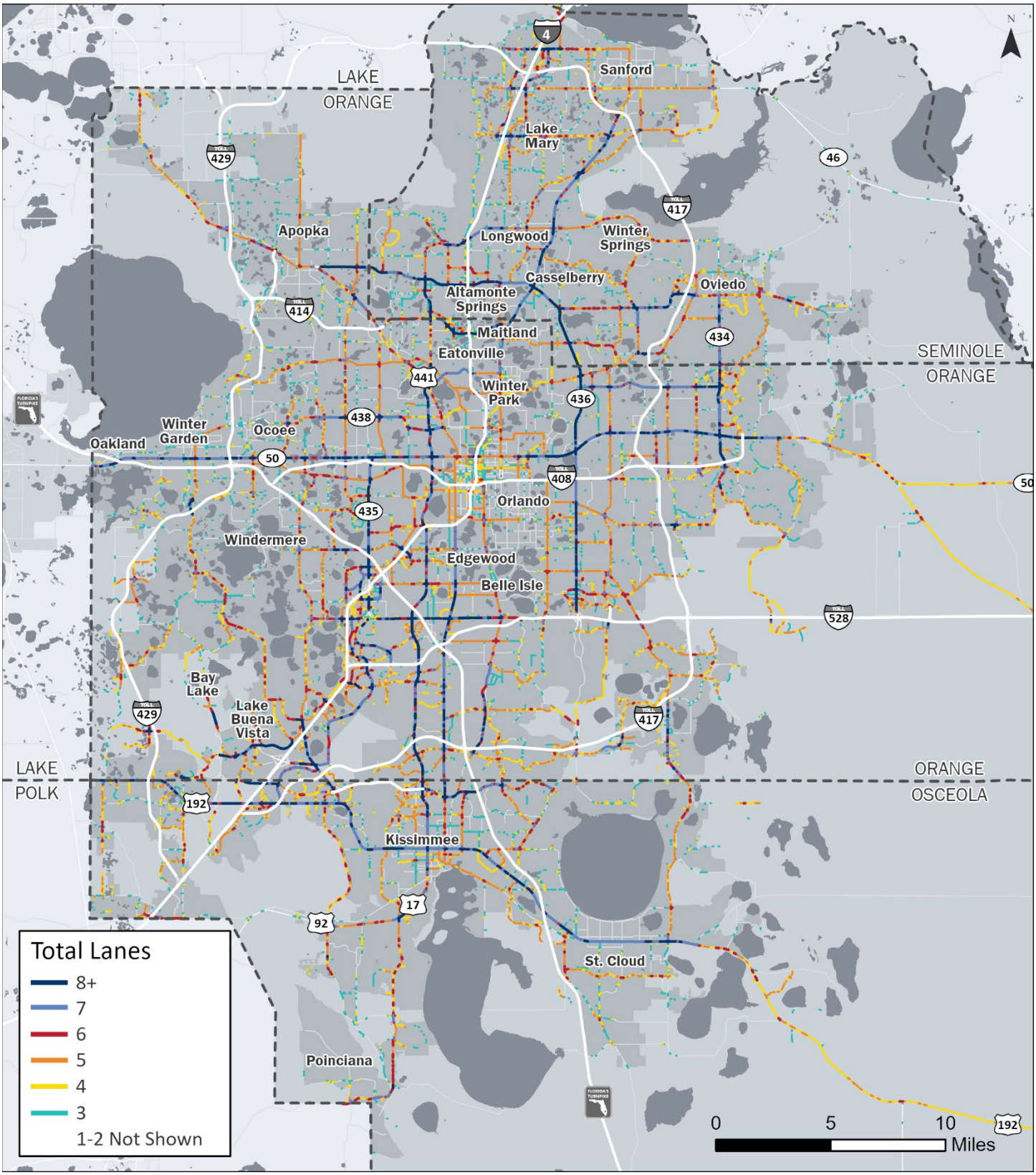
Source: xGeographic Wave, 2023 (Both Figures)

Figure 77 | Posted Speed Limit



Source: xGeographic Wave, 2023

Figure 78 | Total Number of Lanes, Excluding Limited Access Facilities



Source: xGeographic Wave, 2023

3.5 TRUCK TRAFFIC & PARKING

Trucks are vital for shipping goods to businesses and consumers and rely on factors such as travel time reliability and a lack of congestion. Truck Travel Time Reliability (TTTR) is a measure of the 95th percentile truck travel time divided by the 50th percentile truck travel time, which provides information on the predictability of travel times for trucks on interstates. This metric is tracked by FDOT for the region and can be seen in Figure 79. An additional measure of success for trucks is congestion levels, which are also tracked by FDOT and shown in Figure 80. See Figure 36 to view a visual example of travel time reliability.

Figure 81 on the following page shows publicly-and-privately-owned truck parking areas alongside daily truck traffic volumes. Truck parking is a significant factor in roadway safety, as truckers can work long hours and require time off of the road. Ensuring that the region has ample truck parking also helps to improve the efficiency of the overall freight system.

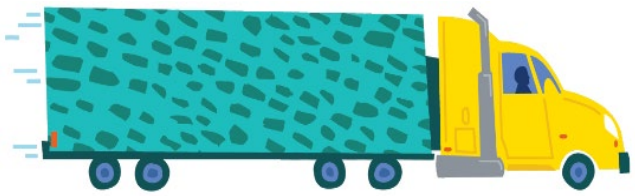


Figure 79 | Truck Travel Time Reliability (TTTR) Index, Interstate Highway System

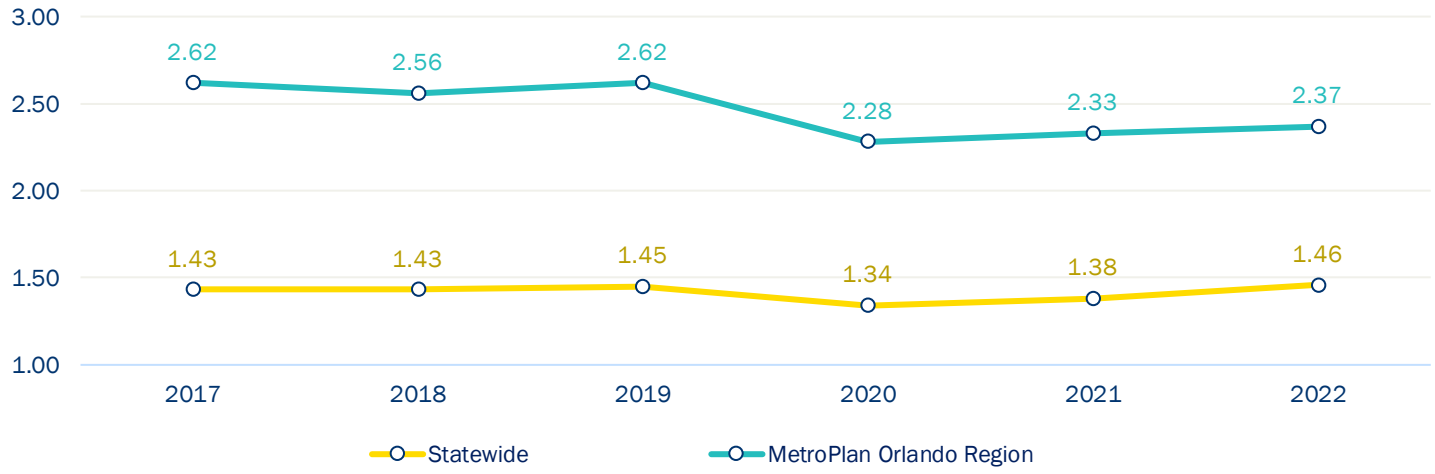
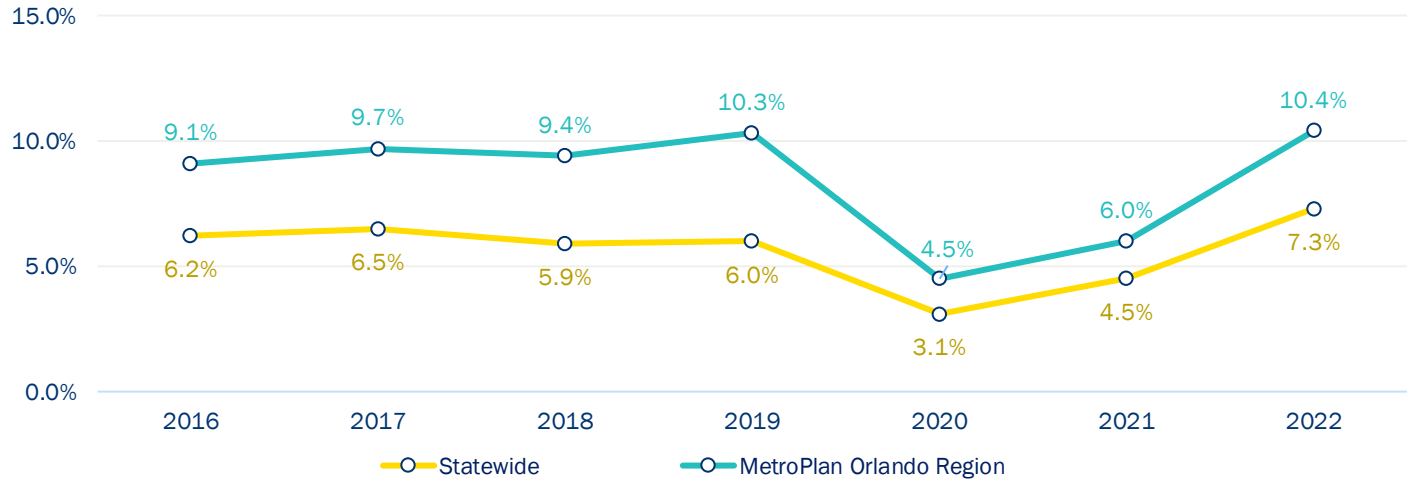
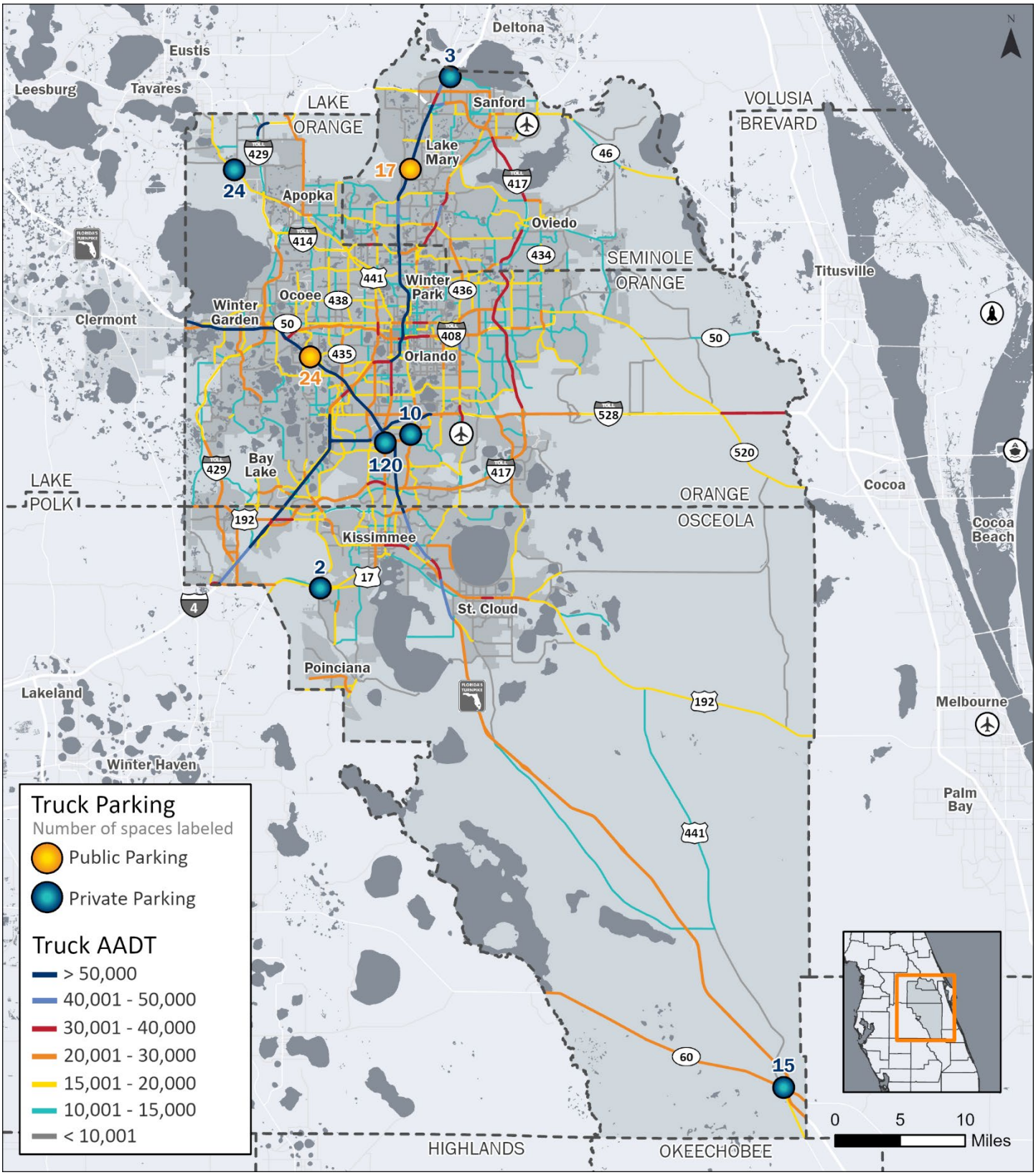


Figure 80 | Percent of Miles Heavily Congested, State Highway System, Urbanized Areas (Peak Period)



Source: Florida Department of Transportation, 2022 (Both Figures)

Figure 81 | Truck Parking Spaces & Truck Traffic Volumes



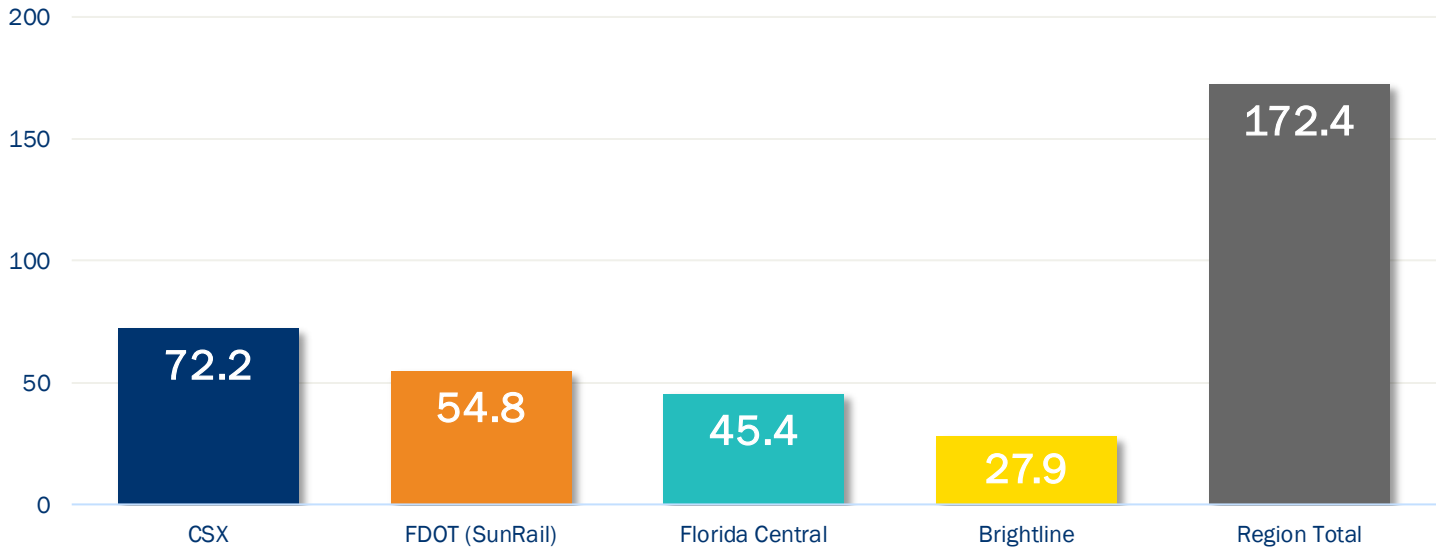
Source: FDOT, 2022 (Truck AADT, Truck Parking)

3.6 RAIL NETWORK

Several private companies and the Florida Department of Transportation own and operate the 172.4 miles of railroad within the MetroPlan Orlando region. This transportation infrastructure is critical to both passenger rail service (SunRail) and delivery of freight into the region and throughout the state. Figure 82 below shows the miles of railroad owned and operated by each of the owners. It is important to note that SunRail operates on some short segments of tracked owned by CSX Transportation.

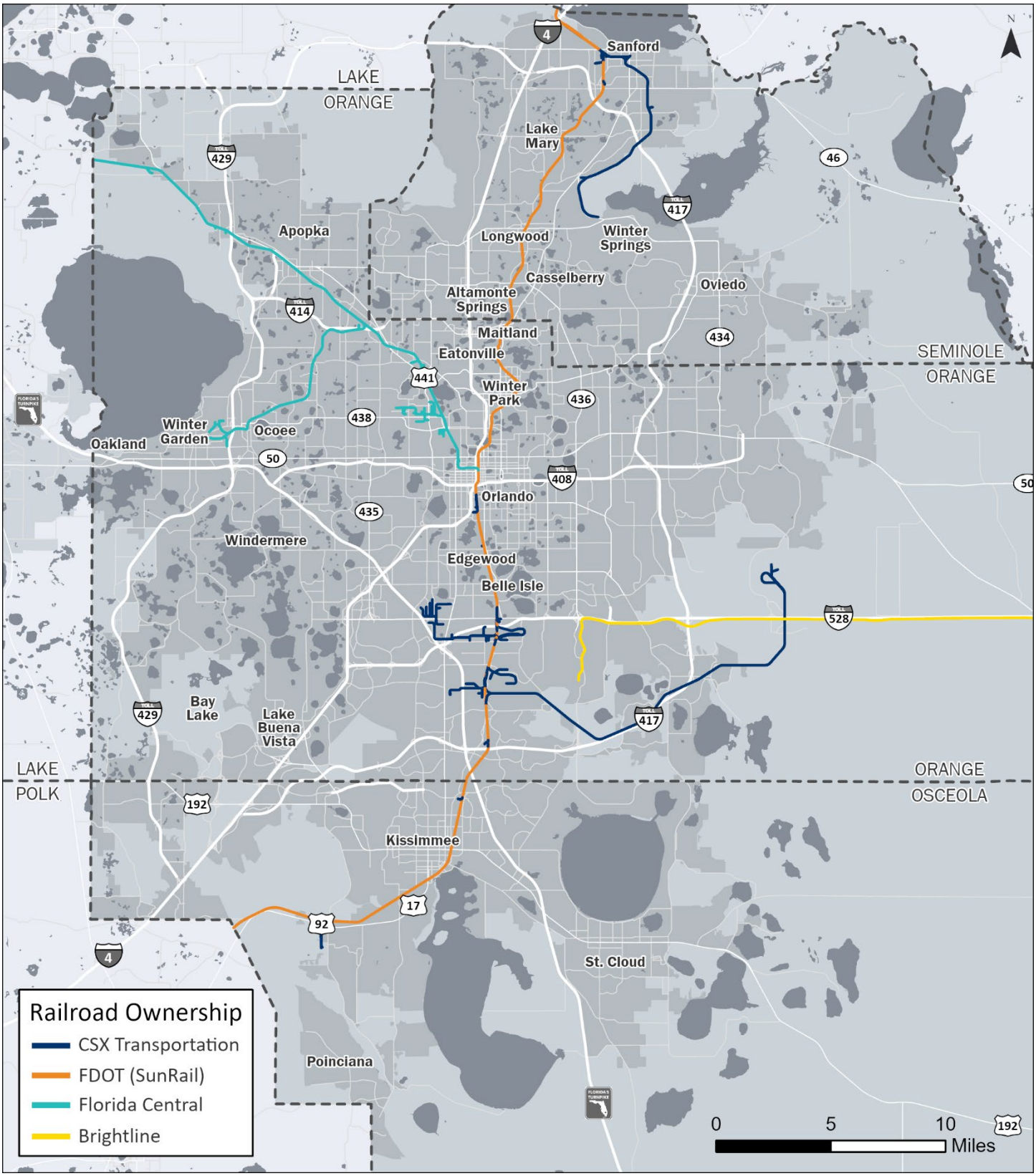
- CSX Transportation operates throughout the 3-county region and owned the current SunRail tracks until 2011. The private company operates in all U.S. states east of the Mississippi River and has an extensive network in the state of Florida, with tracks running through Miami, Tampa, Jacksonville, Tallahassee and Pensacola.
- The Florida Department of Transportation (FDOT) owns the SunRail tracks through the Central Florida Commuter Rail Commission and has been providing service along the line since 2014.
- Florida Central Railroad operates in western Orange County and has tracks that connect to the SunRail line near downtown Orlando. This line extends past Apopka in northwest Orange County to destinations in Lake County, including Mount Dora, Eustis, Tavares and Umatilla.
- Brightline recently began passenger rail service from Orlando International Airport to south Florida. The railroad extends eastward to the Atlantic seaboard of Florida, connecting to the Florida East Coast (FEC) railway in Brevard County. The FEC railway runs from Jacksonville to Miami and is a critical piece of railroad infrastructure for the state of Florida.
- Amtrak operates service on multiple private railroads, including CSX-owned and FEC-owned tracks, but does not own any trackage in the region. Amtrak passenger rail service extends from Orlando to Jacksonville, Tampa, and Miami.

Figure 82 | Railroad Miles within the MetroPlan Orlando Region, by Owner



Source: Florida Department of Transportation, 2023

Figure 83 | Railroad Ownership



Source: Florida Department of Transportation, 2023; Brightline, 2023

3.7 TRANSIT NETWORK

While the MetroPlan Orlando region is largely automobile-oriented, numerous transit services are available to residents. Information on these transit services is provided below. Figure 84 shows a map of the transit system across the region.

3.7.1 LYNX

LYNX provides busing services to a large service area in the region. This includes traditional busing in addition to numerous other options. Options include:

- **Access LYNX:** Offers door-to-door shuttle services to eligible people with disabilities or other limitations.
- **FastLink:** A commuter service that has a limited number of stops along specific corridors.
- **LYMMO:** Offers bus rapid transit service in downtown Orlando.
- **NeighborLink:** A flex service that serves less-populated areas.
- **SWAN Shuttle:** An autonomous shuttle being tested in the City of Orlando.
- **Vanpool:** Offers work trips to people living in close proximity to each other.

3.7.2 SUNRAIL

SunRail has been operational in the region since 2014 and has 16 stations across Orange, Osceola, Seminole and Volusia County. SunRail accommodates commuters, stopping at multiple job hubs (such as downtown Orlando, downtown Kissimmee, and downtown Winter Park) while also stopping at suburban park and ride locations.

3.7.3 BRIGHTLINE

Brightline began service in 2023 and is the first high-speed rail service offered in the state of Florida. The route spans from Orlando's International Airport Intermodal Terminal to Miami.

3.7.4 I-RIDE TROLLEY

The I-RIDE Trolley operates in the International Drive area, providing busing services to numerous destinations in Orlando's primary tourism corridor.

3.7.5 THE SANFORD TROLLEY

The Sanford Trolley operates in downtown Sanford and provides a connection to the Sanford SunRail Station.

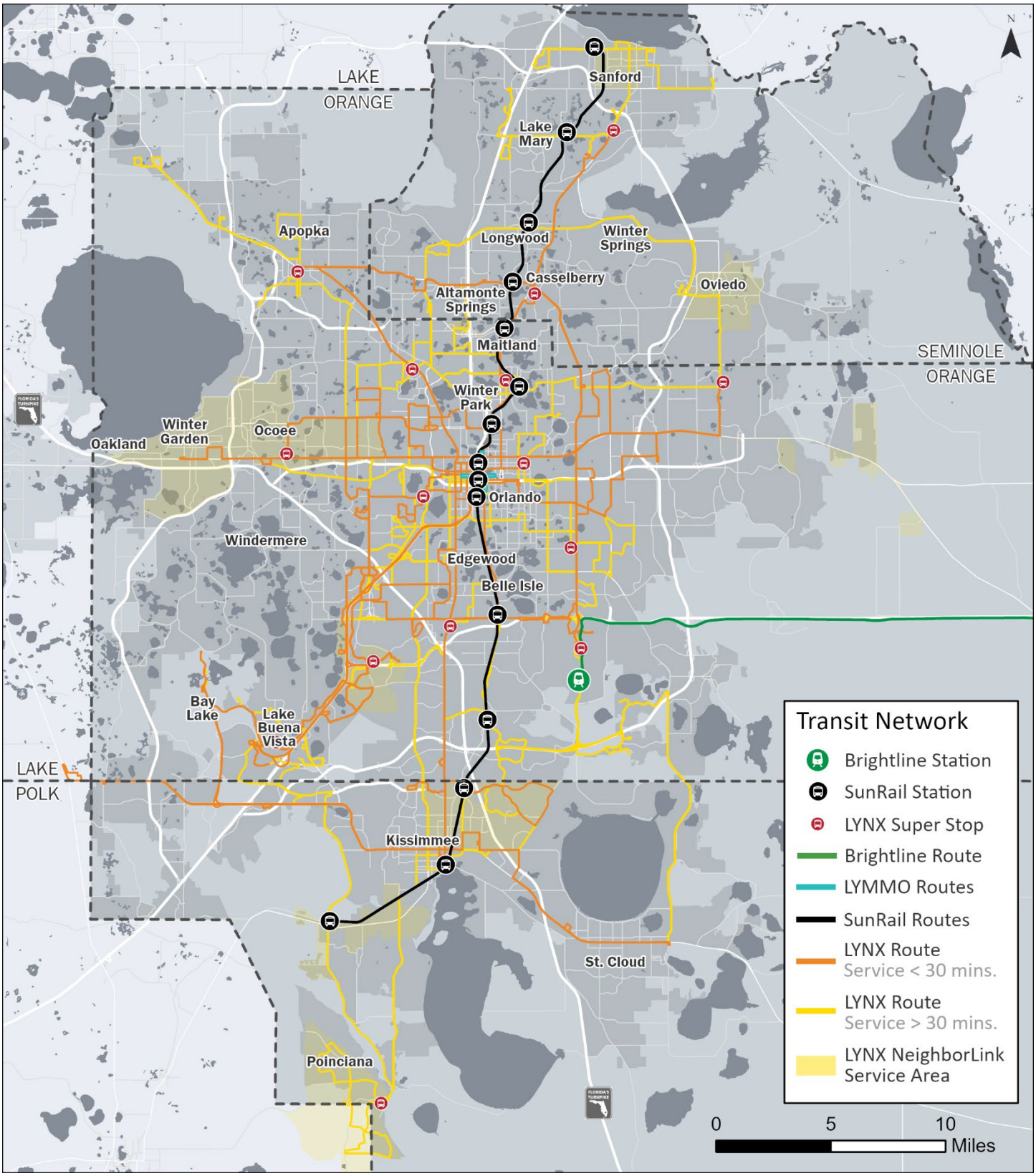
3.7.6 PEGASUS – UNIVERSITY OF CENTRAL FLORIDA SHUTTLE SERVICES

The University of Central Florida provides a shuttle service called Pegasus through the Parking & Transportation Services Department. The shuttle operates Monday through Friday and has 15 regular, fixed shuttle routes.

3.7.7 LAKE XPRESS

Lake Xpress operates a fixed-route system in Lake County, located to the west of the MetroPlan Orlando region. Destinations include Leesburg, Eustis, Mount Dora, Zellwood, Winter Garden, Clermont, and Four Corners.

Figure 84 | Transit Network & Hubs



Sources: LYNX, 2023; Brightline, 2023; SunRail, 2023

3.8 PEDESTRIAN, BICYCLE, AND TRAIL NETWORKS

Transit systems must be paired with bicycle and pedestrian facilities to allow connections between transit and destinations. This section of the report provides information on the region's bicycle and pedestrian infrastructure, including sidewalks, trails, and on-street bike lanes.

3.8.1 SIDEWALK NETWORK

Figure 85 shows regional sidewalk coverage on all roads in the region. Almost half of the roadways in the region have sidewalks on both sides of the road, while nearly 40% have no sidewalks.

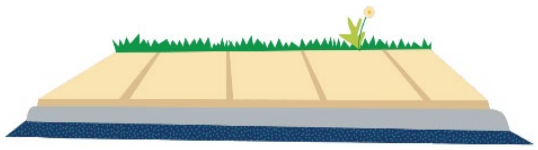
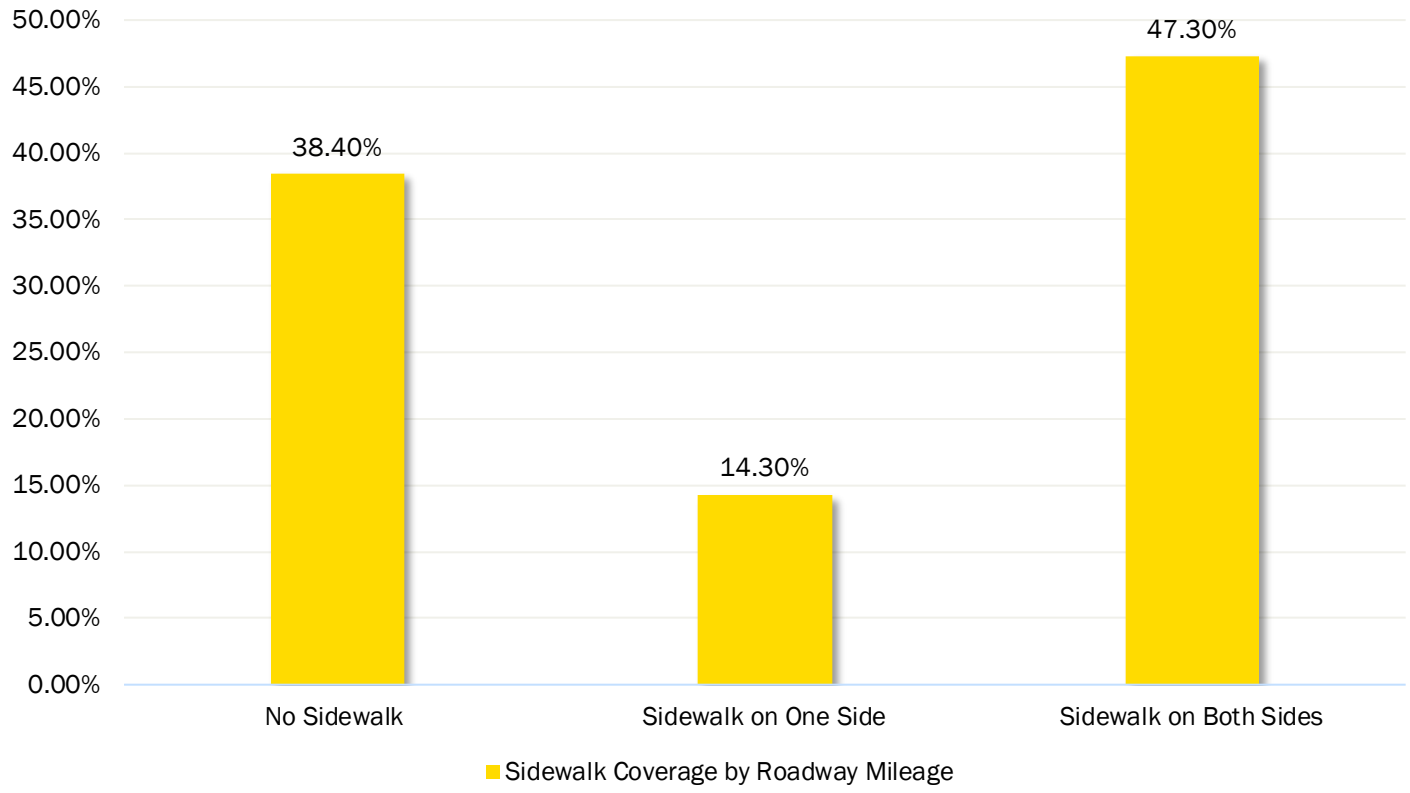


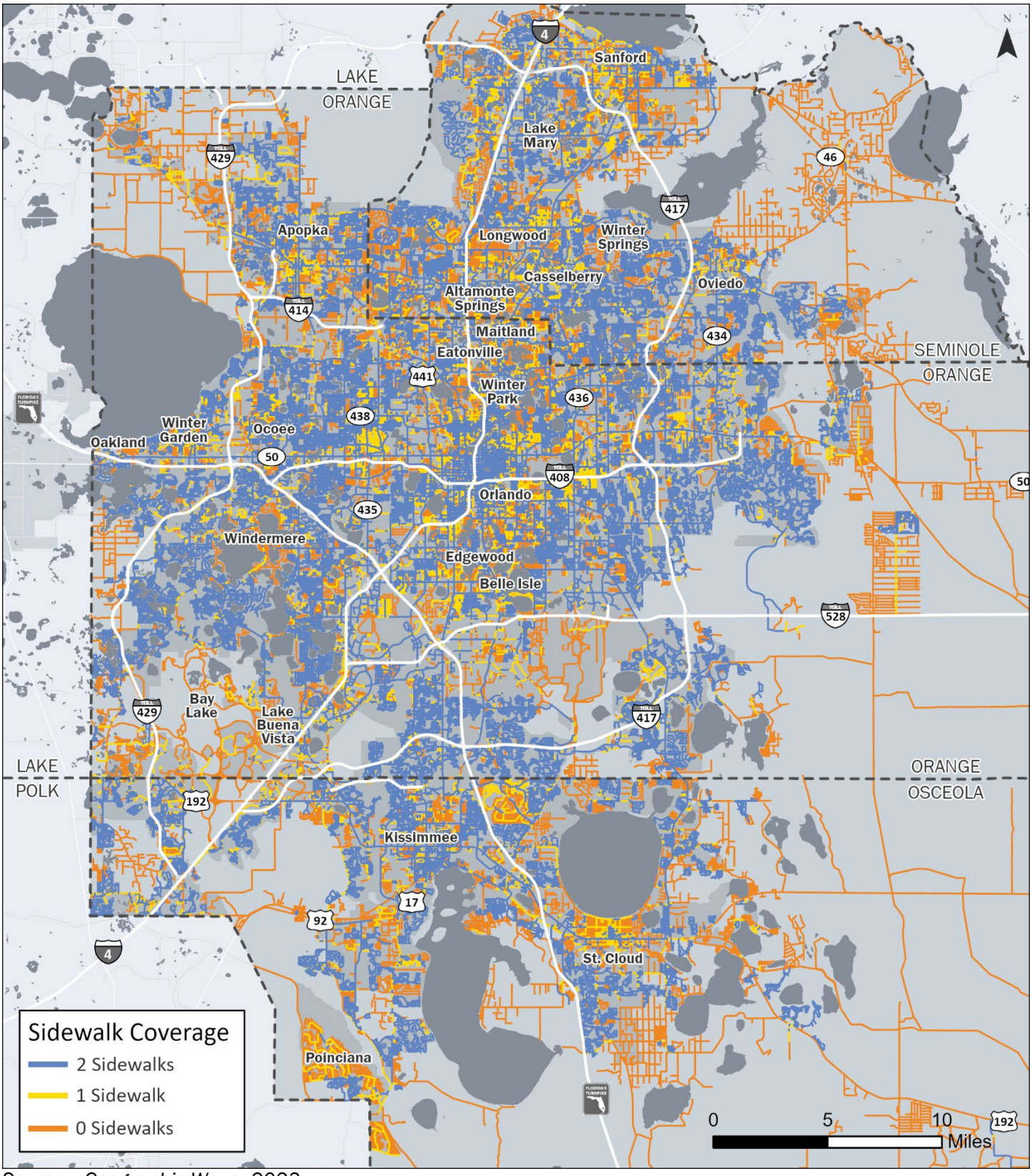
Figure 86 on the following page shows overall regional sidewalk coverage, and Figure 87 shows sidewalk gaps located on roadways where posted speed limits exceed 30 miles per hour. Limited access roadways and areas under construction are not included or referenced in either figure. The majority of the high-speed sidewalk gaps in the MetroPlan Orlando region are located in rural areas.

Figure 85 | Regional Sidewalk Coverage



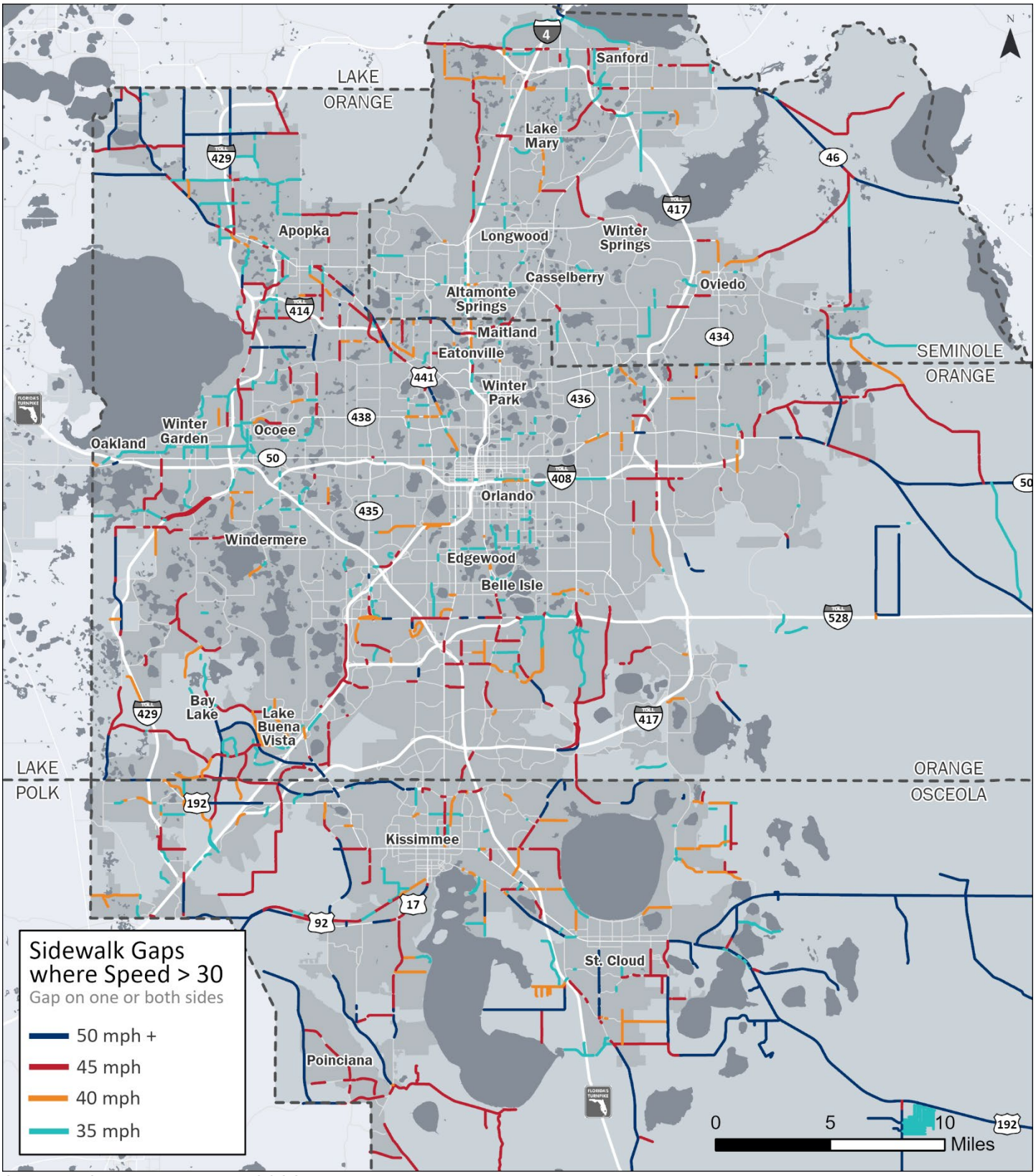
Source: xGeographic Wave, 2023

Figure 86 | Sidewalk Coverage



Source: xGeographic Wave, 2023

Figure 87 | Sidewalk Gaps Along High-Speed Roadways



Source: xGeographic Wave, 2023

3.8.2 BICYCLE AND TRAIL NETWORKS

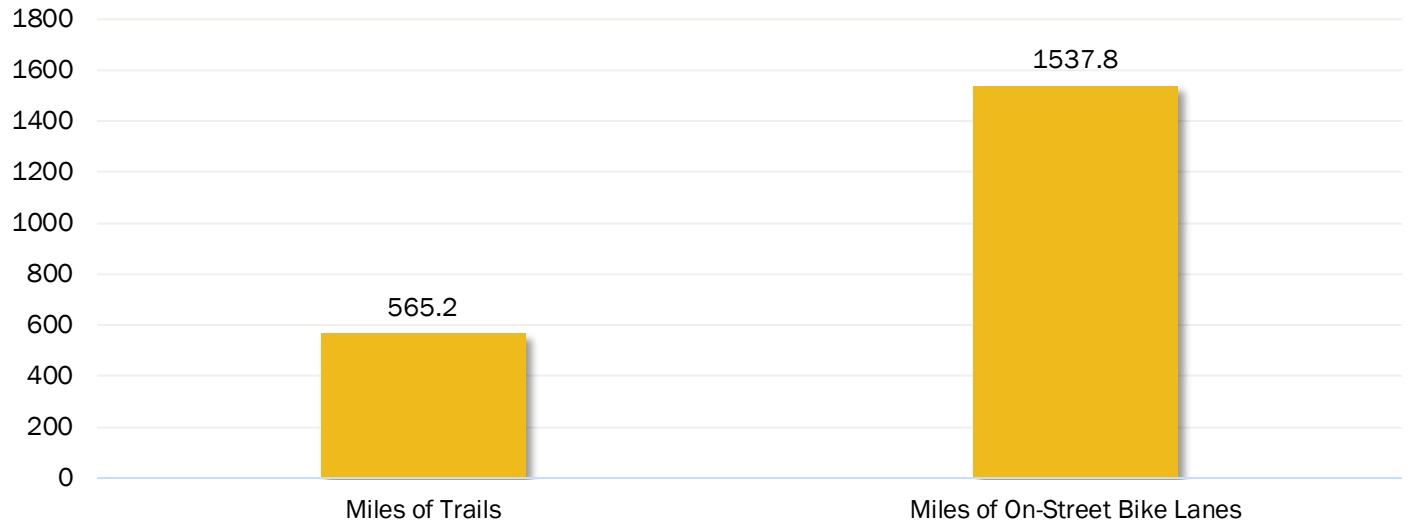
Bicycle network facilities within the region include shared use paths, bike lanes, and paved shoulders. Shared use paths and trails are physically separated from vehicle traffic by an open space or barrier in the right-of-way or are given their own right-of-way. Shared use paths are generally designed for both bicycles and pedestrians and have space for two-way traffic. These paths provide low-stress environments for bicyclists and pedestrians with minimal roadway crossings.

Bike lanes provide a portion of roadway exclusively 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.

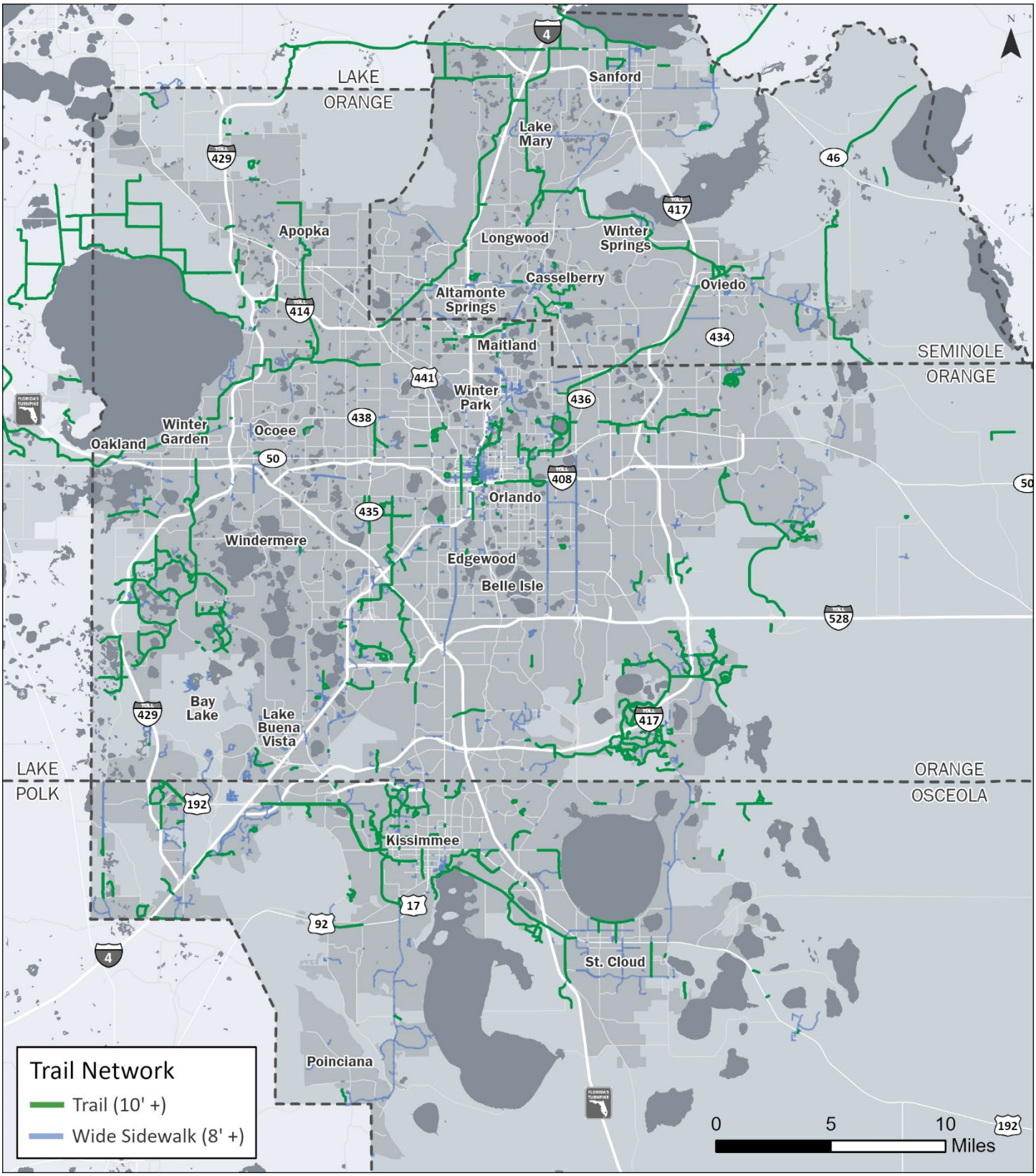
Bicycle infrastructure is important for connecting the region, especially in areas of persistent poverty or transportation disadvantaged areas, where residents may not have a vehicle. Figure 88 below shows an inventory of the bicycle facilities in the region. Figures 89 and 90 on the following pages depict the existing bicycle facilities and trail network.

Figure 88 | Current Miles of Trails and On-Street Bike Lanes



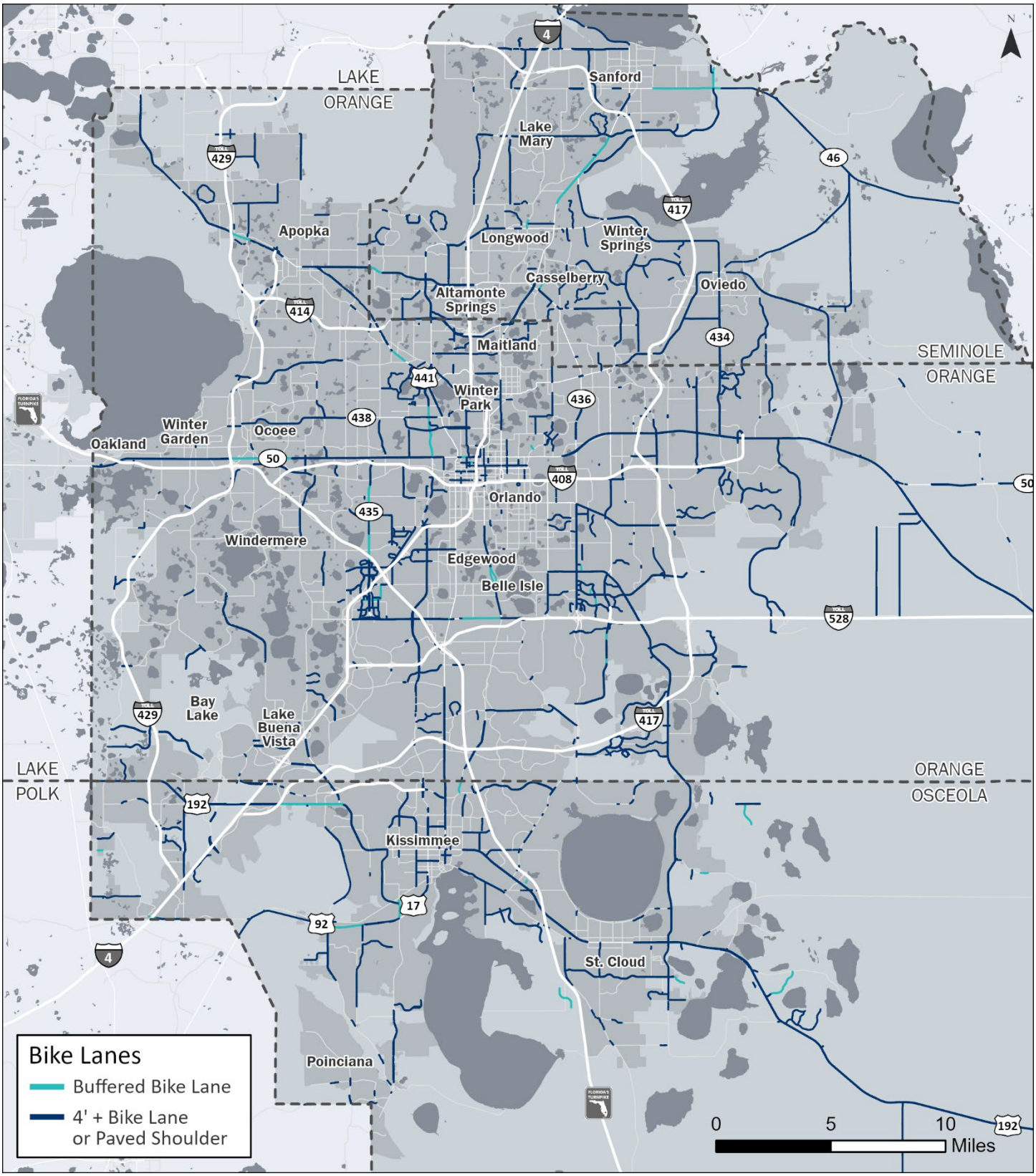
Source: xGeographic Wave, 2023; MetroPlan Orlando Active Transportation Plan, 2024

Figure 89 | Existing Trails & 8-Foot Wide Sidewalks



Source: xGeographic Wave, 2023; MetroPlan Orlando Active Transportation Plan, 2023

Figure 90 | Existing On-Street Bike Lanes



Source: xGeographic Wave, 2023; MetroPlan Orlando Active Transportation Plan, 2023

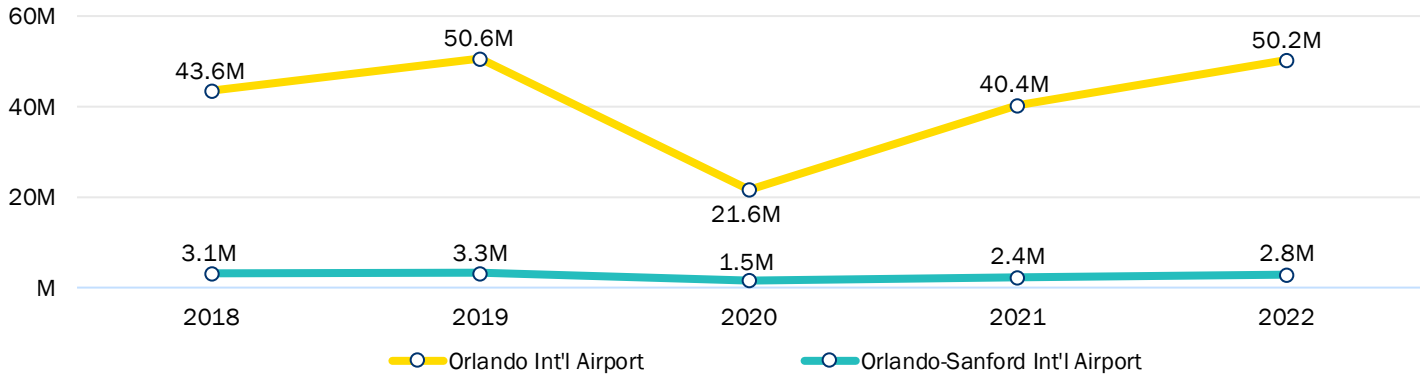
3.9 AIR, SEA & SPACE

The region and surrounding areas have air, sea, and space assets that are critical to global transportation. This section of the report provides information on the region's two largest airports, Orlando International Airport (MCO) and Orlando-Sanford International Airport (SFB), as well as Port Canaveral and the Kennedy Space Center.

3.9.1 AIRPORTS

Orlando International Airport (MCO) and Orlando-Sanford International Airport (SFB) both serve more than one million annual passengers from around the world. MCO is among the top 20 busiest airports in the world. Following a large drop in passengers in 2020 due to the COVID-19 pandemic, MCO has since seen back-to-back years of large increases in ridership. Orlando Executive Airport (ORL) and Kissimmee Gateway Airport (ISM) also serve the region as general aviation and reliever facilities for MCO.

Figure 91 | Airport Annual Passengers (Embarkments & Arrivals)

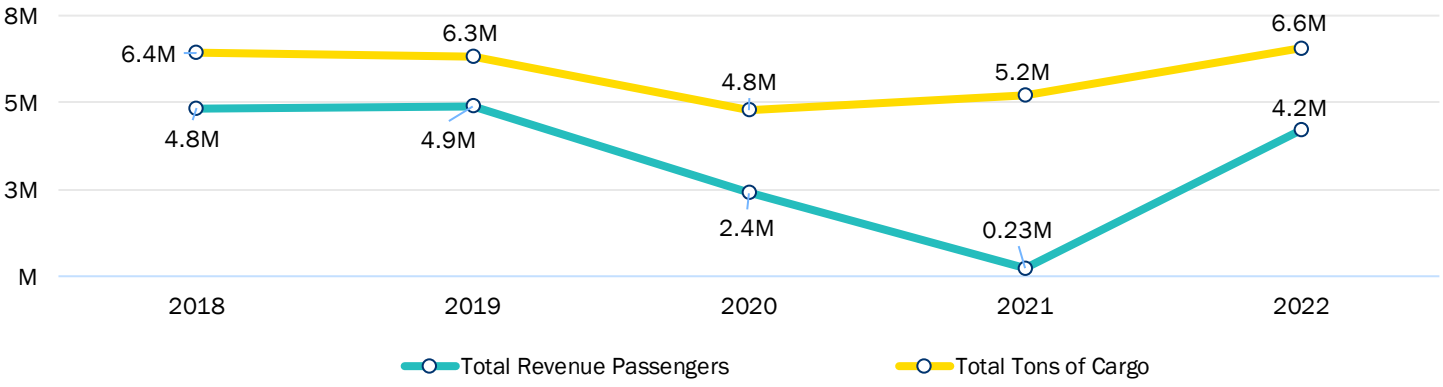


Source: Greater Orlando Aviation Authority, Sanford Airport Authority, 2022

3.9.2 SEAPORTS

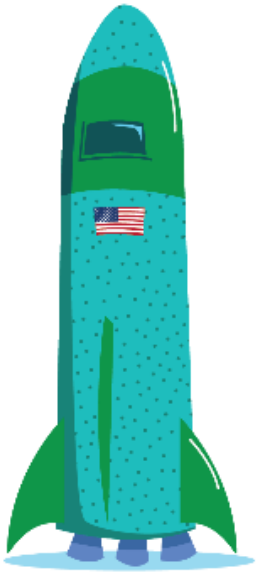
The closest seaport to the MetroPlan Orlando region is located in Brevard County at Port Canaveral and is an approximate one-hour drive east of Orlando. Port Canaveral saw a drastic reduction in service in 2020 and 2021 due to the COVID-19 pandemic, but has since seen increases in cargo and passengers back to normal levels.

Figure 92 | Port Canaveral Revenue Passengers and Tons of Cargo



Source: Port Canaveral, 2022

3.9.3 SPACEPORTS

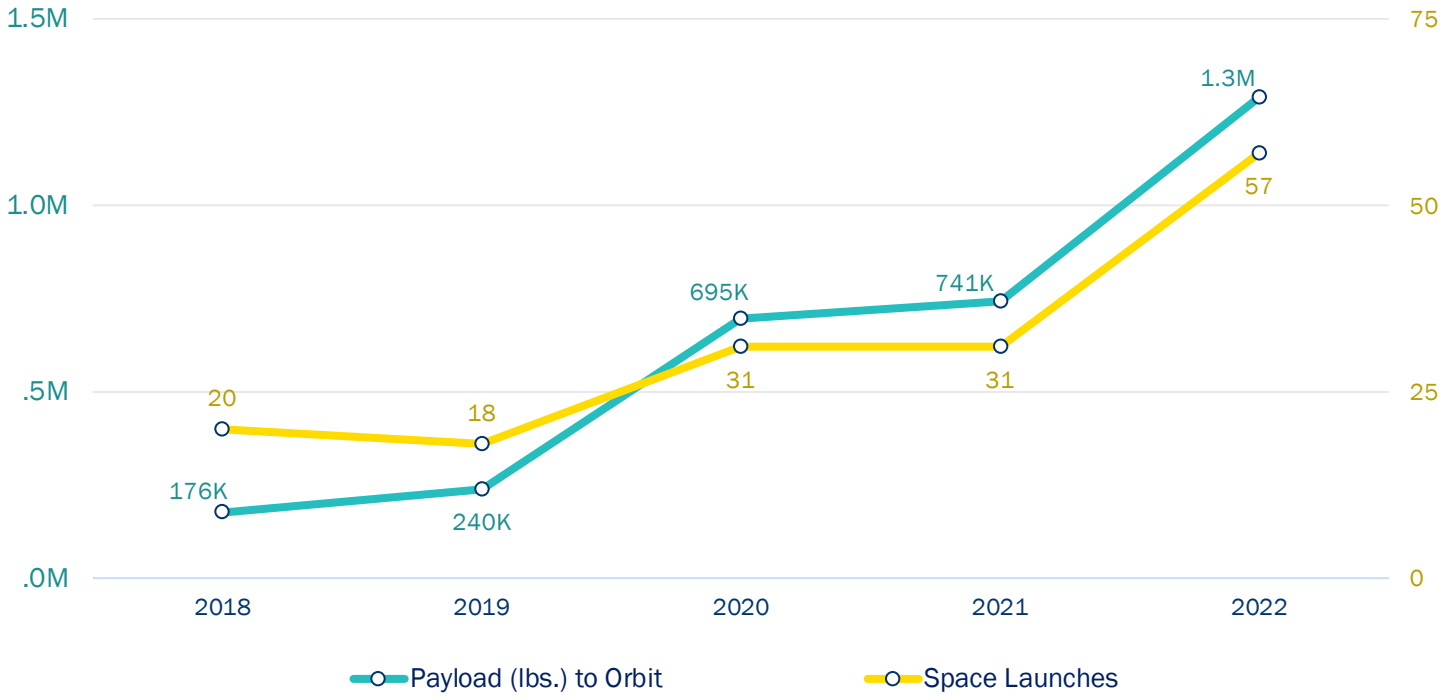


Approximately 60 miles southeast of Orlando's central business district is Cape Canaveral. Cape Canaveral includes both the Cape Canaveral Air Force Station and the Kennedy Space Center (on Merritt Island). The Kennedy Space Center contains both the National Aeronautics and Space Administration's (NASA) launch facility (spaceport), and an international visitor complex.

The Kennedy Space Center hosts manned space missions for the US government, launches private rockets, and has seen a large increase in both the number of commercial space launches and pounds of payload to orbit. From 2018 to 2022, annual payload to orbit increased by 185% and total launches increased by 638%. Figure 93 below shows this data by year.

The growing space industry not only launches economic expansions, but also attracts visitors to the region to witness history in the making. Many residents and visitors watch rockets launch from Earth, which provides a rare experience that can support local businesses. Space tourism is also a growing trend, as numerous private companies are beginning to offer trips to low-Earth orbit.

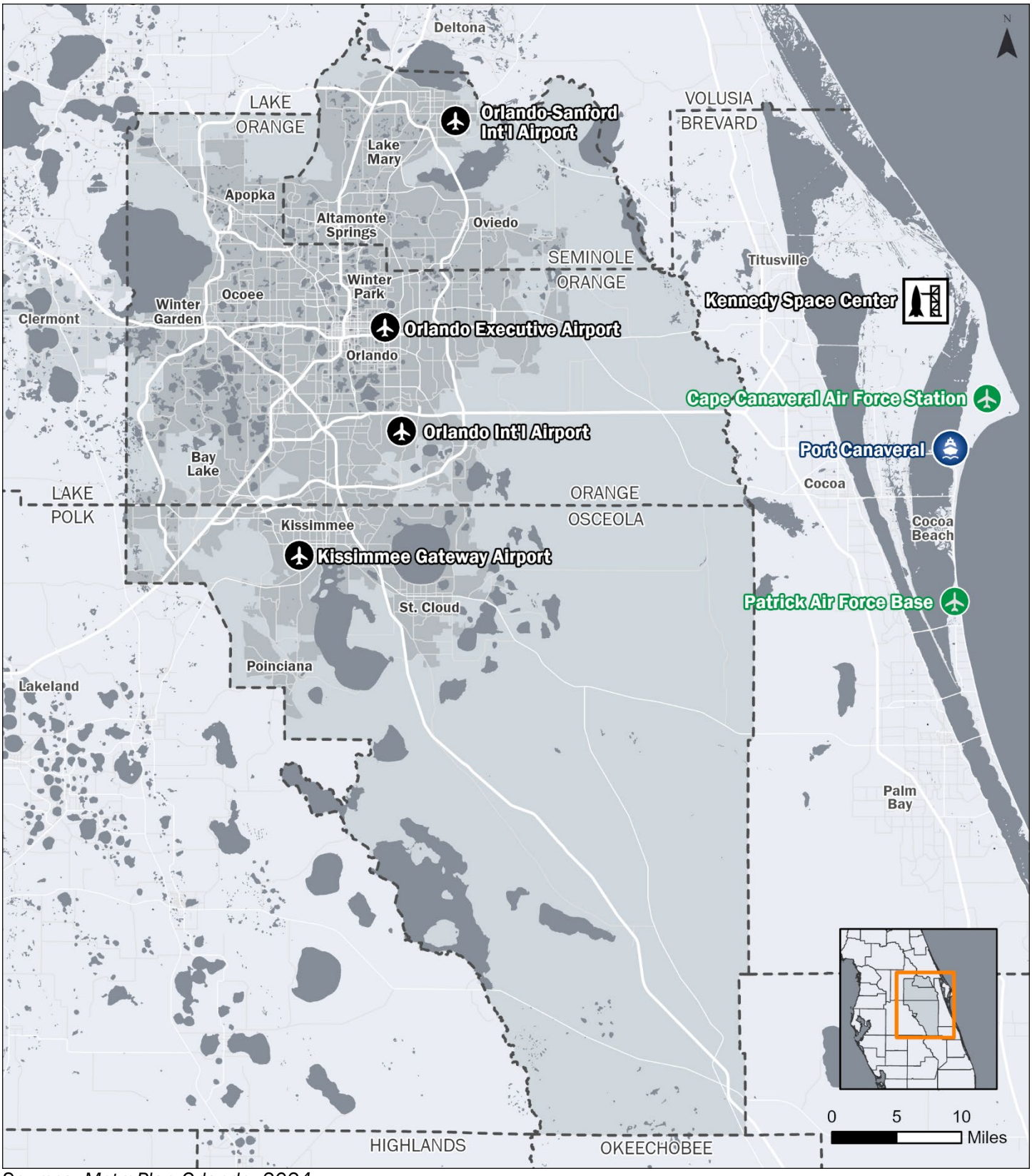
Figure 93 | Kennedy Space Center Space Launches & Annual Payload to Orbit in Pounds



Source: NASA, 2022

Figure 94 on the following page depicts the airports, spaceports, and seaports within and surrounding the region Private airports and airports located outside of the region (such as Orlando-Melbourne International Airport) are not shown on the map.

Figure 94 | Airports, Seaports & Spaceports



Sources: MetroPlan Orlando, 2024

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