



2050 Metropolitan Transportation Plan

Chapter 8 | Drivers of Change



June 1, 2024
Draft

WHAT IS IN THIS DOCUMENT?

The purpose of this 2050 Metropolitan Transportation Plan (2050 MTP) chapter is to identify the key drivers of change, which are future trends that may influence transportation in the Central Florida region between now and 2050. Understanding these trends, including related uncertainties and potential disruptions—and their implications for transportation demand and supply – will help MetroPlan Orlando and the region as a whole prepare for an evolving transportation future. This chapter identifies ten key drivers of change and describes a variety of assumptions and projections for the region’s transportation future that will be used to inform policy and investment decision-making between now and 2050.

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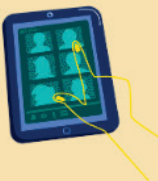
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1 Introduction

MetroPlan Orlando identified ten “drivers of change,” or future trends that have the potential to significantly influence future transportation demand, supply, and preferences as well as investments and decision-making processes. Some of these drivers represent factors specific to the Central Florida region, while others represent external, often global, factors beyond our control.

Central Florida Region

- Demographics
- Public Health
- Economy
- Visitation
- Development

External Factors

- Technology
- Energy
- Climate and Risks
- Transportation Costs
- State and Federal Policy and Funding

Throughout this document, data on historic trends and future projections represent the metropolitan planning area of Orange, Osceola, and Seminole counties, where possible. In some cases, data are reported at the metropolitan statistical area (MSA) or at the broader statewide, national, or global levels.

Historic trends use the most recent data available. Projections are drawn from a variety of local, regional, state, federal, global, and industry sources. In some cases, especially when projections are not consistent, a range of projections are shown to help illustrate the potential range of factors influencing and outcomes for Central Florida’s transportation future.

This document does not seek to identify a singular projection or future scenario for the Central Florida region, but rather seeks to illustrate the range of potential trends, uncertainties, and disruptions the region may face and how they may impact Central Florida’s transportation future.

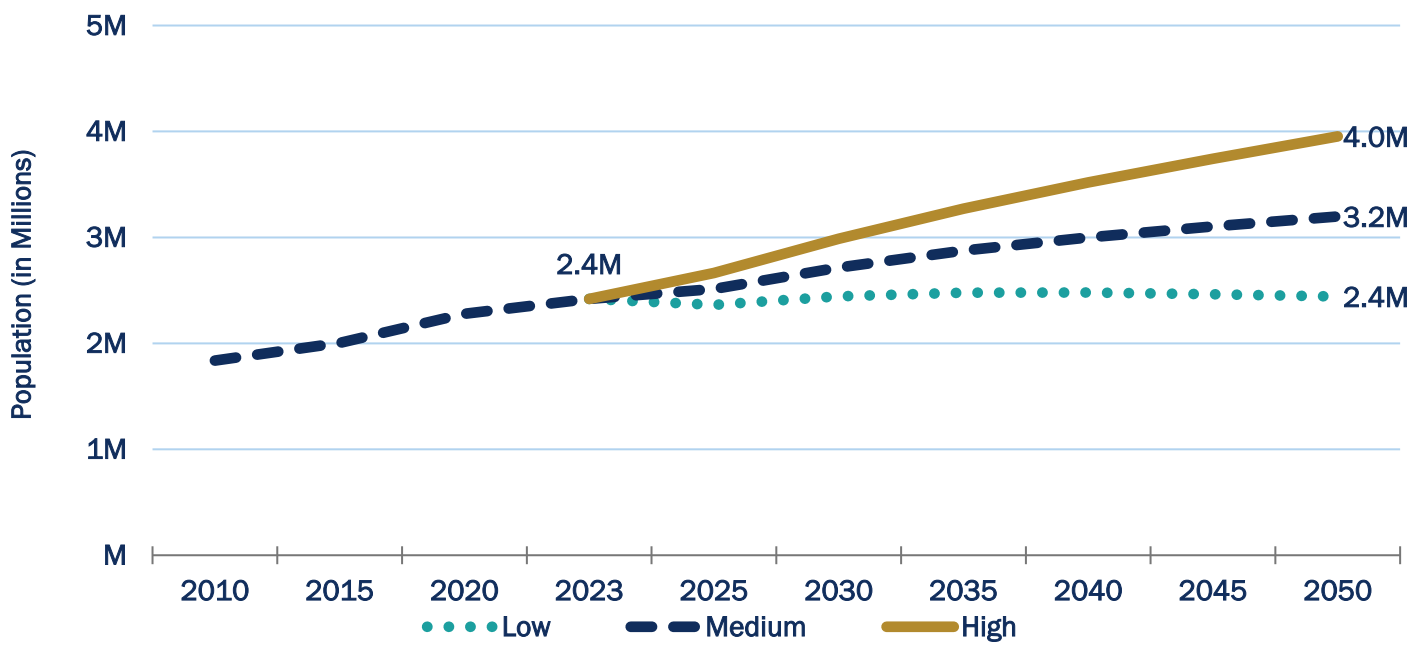
2 Demographics

2.1 POPULATION GROWTH

WILL WE CONTINUE TO SEE STRONG POPULATION GROWTH?

Historically, long-range transportation planning in Central Florida could assume strong population growth throughout the forecast period. While most projections continue to suggest strong population growth in the region, there is greater uncertainty than in prior forecasts. Figure 8-1 illustrates the MPO planning area’s historic and projected population growth, using the statewide forecasts developed by the University of Florida’s Bureau of Economic and Business Research. The medium, or baseline, projection suggests the region would grow a total of 32 percent between 2023 and 2050, or approximately 29,000 additional people per year. This means nearly 800,000 new residents would call the Central Florida region home and need an efficient multimodal transportation system to get them where they need to go.

Figure 8-1 | MPO Planning Area Population Growth and Projections (2010-2050)



Source: University of Florida, Bureau of Business & Economic Research (BEBR), 2024 (Orange, Osceola, and Seminole counties).

The high projection estimates a 63 percent growth in population between 2023 and 2050, meaning the transportation system would need to accommodate another 1.5 million residents. This projection anticipates a significantly higher rate of migration to Central Florida from other regions, states, and nations.

The low projection, on the other hand, anticipates less than 1 percent growth in population between 2023 and 2050. In fact, the low projection suggests population will grow slowly until 2035 before it begins to decline, returning to current levels by 2050. This projection anticipates a significant reduction in migration as well as lower birth rates, consistent with national trends.

COULD CENTRAL FLORIDA REALLY SEE A LOW- OR NO-GROWTH FUTURE?

Table 8-1 illustrates the components of regional population change between 2020 and 2023. Population growth is driven by two major groups of factors:

- Migration from other regions or states in the United States (what is referred to as domestic migration) and from other nations (international migration).
- The number of births and the number of deaths. The difference between the number of births and deaths in a region is referred to as the natural increase in population.

Table 8-1 | Components of Regional Population Change (April 1, 2020 to July 1, 2023)

Region	Births	Deaths	Natural Increase (Births-Deaths)	Domestic Migration	International Migration	Total Migration	Total Population Change
Orange County	52,300	32,967	19,333	(16,634)	38,268	21,634	41,508
Osceola County	15,308	10,485	4,823	32,060	12,105	44,165	49,210
Seminole County	14,717	13,619	1,098	5,969	5,925	11,894	13,414
MPO Planning Area	82,325	57,071	25,254	21,395	56,298	77,693	104,042
Florida	703,817	798,173	(94,536)	818,762	349,370	1,168,132	1,072,510

Source: U.S. Census Bureau. Total population change includes a residual that cannot be attributed to a specific source.

WHAT'S HAPPENING WITH MIGRATION?

Central Florida's population growth traditionally has been driven by domestic and international migration. Domestic and international migration combined accounted for 75 percent of the region's population growth between 2020 and 2023, down from about 90 percent during the 2010-2020 period.¹ More than 56,000 people moved from other nations to the MPO planning area between 2020 and 2023, including more than 38,000 to Orange County alone. Orange County ranked behind only Miami-Dade County and Broward County for international migration to Florida during this period. Domestic migration to the region totaled more than 21,000, with increases in Osceola County and Seminole County offset by a net loss of more than 16,000 people who moved from Orange County to other parts of the United States. This was the largest domestic out-migration from any Florida county except Miami-Dade County and Broward County.

Evolving migration patterns could impact on Central Florida's future population growth. About 8.4 percent of Americans moved in 2021, the lowest share in post-World War II history; this share increased slightly to 8.7 percent in 2022.² Migration is declining as the U.S. population ages and as regional differences become less profound. Regions such as Central Florida that historically have relied on significant migration from other states will need to offer a range of job opportunities and affordable, high-quality living options—an increasing concern for Central Florida as home prices rise at a faster rate than in many of the regions that traditionally have been sources of new residents. While domestic migration may slow, Central Florida remains an attractive location for international migrants. Total migration could increase if extreme weather and climate trends prompt more people to relocate from coastal Florida or from Caribbean islands to reduce exposure to risks and increasing housing and insurance costs.

¹ U.S. Census Bureau, County Population Totals and Components of Change: 2020-2023, 2024.

² U.S. Census Bureau, Why People Move, Figure 2—U.S. Movers and Mover Rates: 2018-2022, 2023.

WHAT'S HAPPENING WITH BIRTHS AND DEATHS?

During the 2020 to 2023 time period, Orange County experienced the largest natural increase (more births than deaths) of any county in Florida, reflecting a younger median age and large number of families. Osceola County and Seminole County experienced smaller natural increases.

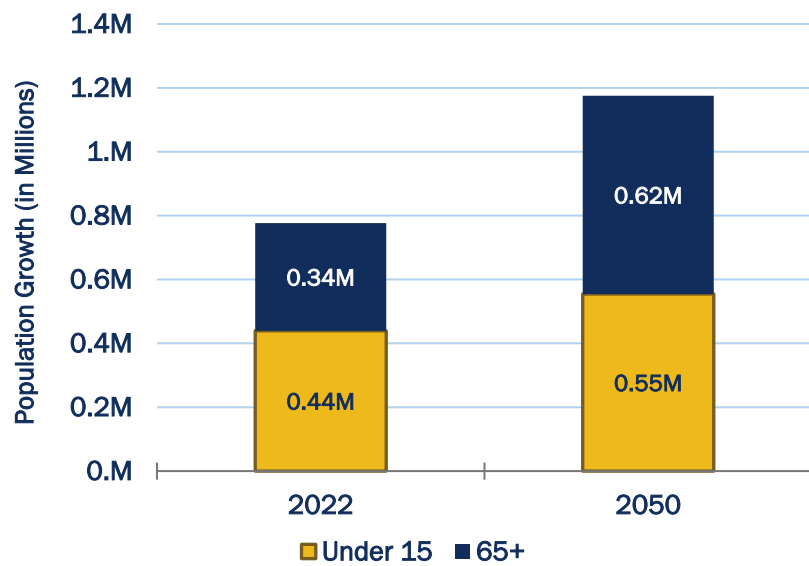
A slowing birth rate and increasing death rate—both typical of an aging population—will impact future population growth. After nearly seven decades of strong natural increase in population, Florida experienced more deaths than births in 2019—a trend repeated during 2020 and 2021 due to the impacts of the COVID-19 pandemic. While birth and death rates are not projected by county, statewide projections suggest the number of births will increase only 9 percent between 2023 and 2039, while the number of deaths will increase 38 percent.³ These trends suggest Florida will experience a net loss in natural population over time, offset only by continued migration.

2.2 SHIFTING DEMOGRAPHIC MAKEUP

WILL OUR CHANGING POPULATION HAVE DIFFERENT TRANSPORTATION NEEDS?

The shifting demographic makeup of the Central Florida’s population will impact transportation demand, needs, and preferences. Like other parts of Florida, Central Florida will get a little older with nearly 19 percent of the population projected to be 65 or older by 2050 (Figure 8-5). The total number of residents over the age of 65 could increase 82 percent by 2050. A national study suggests that people are outliving their ability to drive by seven to ten years.⁴ This means an increasing share of Central Florida’s population of aged 65 and older may rely on transit, ridesharing, and active transportation for their mobility needs. Moreover, it is possible the share of older residents could increase further due to better healthcare and increasing life expectancy.

Figure 8-2 | MPO Planning Area Population Under 15 and 65+ (2022 and 2050)



Source: University of Florida, Bureau of Business & Economic Research, 2024.

At the same time, 18 percent of Central Florida’s population will be under the age of 15 by 2050.⁵ This suggests a large number of children and teenagers who will be reliant on transit, ridesharing, active transportation, or assistance from friends and family that have a car.

The Central Florida region also will see a more racially diverse population by 2050, with 45 percent of the population expected to be of Hispanic origin, compared to 35 percent in 2022.⁵ This increased diversity may

³ Office of Economic and Demographic Research, Florida Demographic Estimating Conference, November 2023.

⁴ American Automobile Association, More than 80 Percent of Older Drivers Aren’t Talking About Driving Safety, 2018.

⁵ BEBR, Population Projections by Age, Sex, Race, and Hispanic Origin for Florida and its Counties, 2025-2050, with Estimates for 2022, 2023.

suggest interest in a greater range of transportation options. In addition, about 27 percent of Central Florida’s population today is foreign-born and 9 percent of the population has limited English proficiency. These trends demonstrate the need for transportation information to be accessible to non-native populations and non-English speakers.⁶ They also suggest a need for more transportation options: many foreign-born residents are accustomed to a greater range of transportation options. Many immigrants also do not have the economic resources to purchase a motor vehicle (or in some cases, to obtain a drivers’ license) when they first move to the United States.

2.3 IMPLICATIONS FOR 2050

Population growth and demographic characteristics can have a fundamental impact on future transportation needs and preferences. Table 8-2 illustrates the impact the rate of the region’s population growth and change could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-2 | Demographic Implications to 2050 MTP Goals

Goal	Implication
Safety	Reducing fatalities and serious injuries will be a challenge as total travel grows, particularly among elder and younger residents
Reliability	Increasing population could increase demand for all modes and make it more difficult to ensure reliable travel times
Connectivity	Central Florida will face the challenge of moving an increasingly diverse population among a range of places to live, work, and play
Community	Careful choices may be needed about where to locate new housing and other services in a growing region
Prosperity	Careful decisions may be needed to ensure a diverse population has access to opportunity through better transportation, particularly for residents who cannot afford or are not able to operate a motor vehicle

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Domestic and international migration to Central Florida
- Percent of population above the age of 65
- Percent of population below the age of 15
- Percent of population that is foreign born
- Percent of population with limited English proficiency

⁶ U.S. Census Bureau, S0501 Selected Characteristics of the Native- and Foreign-Born Populations, 2022

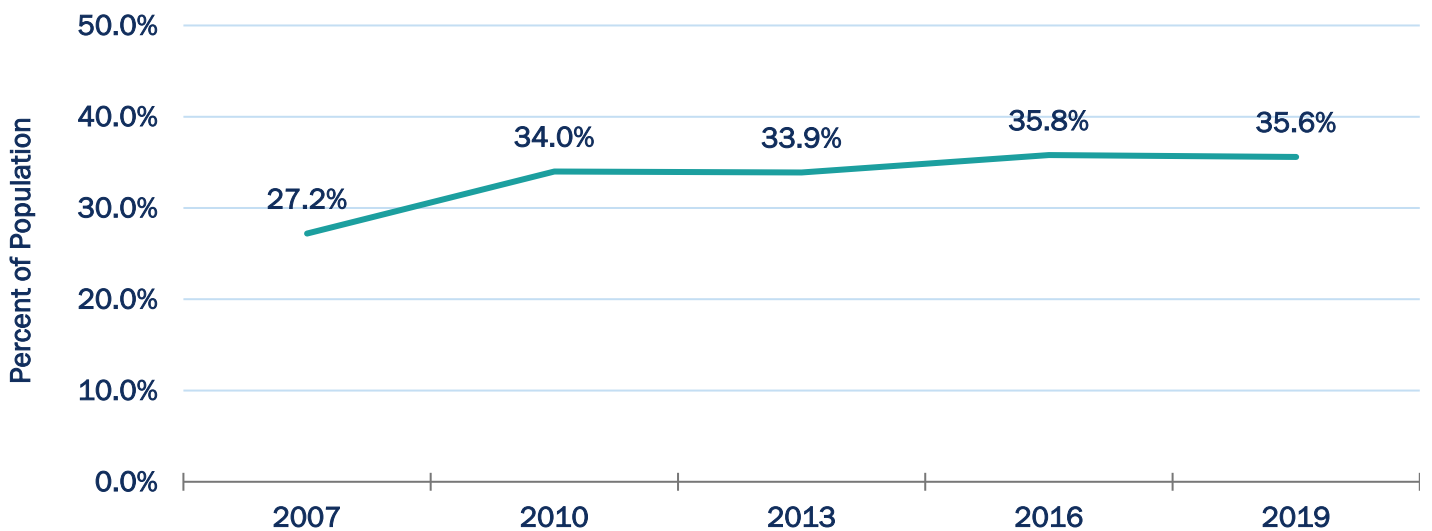
3 Public Health

3.1 HEALTH AND WELLNESS

HOW ARE THE HEALTH AND WELLNESS OF CENTRAL FLORIDA'S RESIDENTS CHANGING?

Many measures of the health and wellness of Central Florida's population have declined gradually during the past few decades, mirroring national trends. The U.S. Census Bureau reports 12 percent of Central Florida's population has a disability.⁷ Self-reported survey data from the Florida Department of Health indicates more than three out of every ten adults in Central Florida believe they have a disability—a share that has increased steadily since 2007 (Figure 8-3).⁸

Figure 8-3 | Share of Central Florida Adults (Ages 18 and Over) that Reported Having a Disability (2007-2019)



Source: Florida Department of Health, Behavioral Risk Factor Surveillance System, 2024.

Self-reported rates of asthma, diabetes, cardiovascular disease, cancer, and obesity also have increased since 2007 (Table 8-3). As of 2019, 9 percent of Central Florida adults reported they suffered from asthma, 11 percent diabetes, nearly 9 percent cardiovascular disease, more than 6 percent skin cancer, and nearly 8 percent other forms of cancer. About 67 percent reported being overweight or obese, and about 12 percent reported that they are struggling with mental health.⁹

⁷ U.S. Census Bureau, S1810 Disability Characteristics, 2022.

⁸ Florida Department of Health, Behavioral Risk Factor Surveillance System, 2019.

⁹ Florida Department of Health, Behavioral Risk Factor Surveillance System, 2019.

Table 8-3 | Central Florida Health Conditions (2007-2019)

Year	Asthma	Diabetes	Cardio-vascular Disease ¹⁰	Skin Cancer ¹¹	Other Types of Cancer	Overweight or Obese ¹²	Mental Health
2007	7.2%	8.5%	8.0%	N/A	N/A	62.0%	9.1%
2010	8.6%	11.1%	9.0%	N/A	N/A	67.1%	11.3%
2013	7.5%	11.2%	7.0%	6.6%	5.5%	61.9%	11.3%
2016	6.5%	12.0%	7.3%	6.3%	5.0%	65.1%	11.9%
2019	9.3%	11.0%	8.7%	6.4%	5.8%	67.2%	11.9%

Source: Florida Department of Health, Behavioral Risk Factor Surveillance System, 2024

The increasing prevalence of unhealthy weights is a significant concern. Less than one-third of Central Florida adults reported they were at a healthy weight in 2019. Approximately 28 percent reported they were obese and about 36 percent report they were overweight. If current trends continue, by 2030 the proportion of Central Florida adults at a healthy weight could drop below 30 percent.¹³

HOW DO HEALTH AND WELLNESS IMPACT MOBILITY NEEDS?

Individual health status can impact individual and household mobility needs. For example, persons with disabilities may have difficulty operating a motor vehicle or may need assistance with walking, bicycling, or riding transit or other shared modes. Persons with chronic health conditions such as cancer or cardiovascular disease may have difficulty walking long distances. Persons who struggle with mental health or substance abuse also may need additional assistance with transportation options and services. The region’s transportation system must continue to meet American with Disabilities Act standards for accessible design. It also may need to provide more options for individuals whose mobility is limited by disabilities or chronic conditions.

Persons with chronic health conditions (as well as persons with short-term conditions such as expectant mothers) may need more frequent medical appointments. Access to reliable and efficient transportation services directly impacts individuals’ ability to access healthcare services, including medical appointments, pharmacies, and emergency care facilities. Conversely, a lack of transportation can lead to delayed medical treatments, worsening health conditions, and increasing healthcare disparities among vulnerable individuals. Nearly one in five (18 percent) of respondents to a 2021 survey said they had skipped or missed a doctor’s appointment in the past year because they did not have reliable transportation. Transit riders reported they missed doctor’s appointments three times more often than non-transit riders.¹⁴

There are growing concerns about the capacity of the region’s healthcare system and its ability to provide adequate medical services to its growing population. Prior to COVID-19, the U.S. Health Resources and Services Administration reported a slight dental health shortage in Central Florida. Since then, shortages across physical, dental, and mental health have escalated, with primary care and dental health for low-income populations

¹⁰ Cardiovascular disease includes coronary heart disease, heart attack, or stroke.

¹¹ 2007 and 2010 data for skin cancer and other types of cancer (except skin cancer) is unavailable.

¹² Overweight is defined as having an excessive amount of body fat, while obesity is medical condition characterized by more severe fat deposits that pose a high risk to an individual’s health, including heart disease and diabetes. World Health Organization.

¹³ Florida Department of Health, Healthy Weight, 2024

¹⁴ MetroPlan Orlando, 2021 Regional Transportation Survey Report.

experiencing the most severe impact.¹⁵ If these shortages continue to rise, some residents may seek medical care in other parts of the region or in other regions, adding to transportation demand.

HOW DOES THE TRANSPORTATION SYSTEM IMPACT HEALTH AND WELLNESS?

At the same time, the design and operation of the region’s transportation system and other aspects of the built environment can impact health and wellness. Research suggests that a contributing factor to the rise in obesity is the design of many communities including transportation systems that emphasize driving to most destinations, with limited options for walking and active transportation.¹⁶ The lack of sidewalks, bike lanes, and safe pedestrian crossings can discourage physical activity, contributing to inactive lifestyles.

Traffic-related air pollution is one of the main contributors to unhealthy ambient air quality, particularly in densely populated areas characterized by heavy traffic volume.¹³ The Florida Department of Health reports 13 percent of residents in Central Florida live within 500 feet of a busy road, and more than 26 percent of schools and daycare facilities are located in close proximity of busy roads. High levels of traffic noise and poor air quality contributes to stress, asthma, and other chronic diseases. Orange County ranked third in the state for asthma-related hospitalizations in 2022.¹⁷

Well-designed environments can influence mental health by reducing stress and promoting social unity with quiet areas, green spaces, and community centers. Health and wellness also are correlated with access to fresh food and recreational options. Areas known as “food deserts,” where residents have limited access to affordable and nutritious food, contribute to worsening health issues by making it difficult for people to maintain a healthy diet.

WILL WE FACE ANOTHER PUBLIC HEALTH CRISIS?

The COVID-19 pandemic beginning in late 2019 disrupted nearly every aspect of how we lived, worked, interacted, and traveled in Central Florida. Many of the changes individuals and businesses made in response to the pandemic, such as increasing rates of remote work, continue to shape our region.

Through 2050, the region could well face another public health crisis. The world has experienced four epidemics or pandemics since the year 2000, and multiple major pandemics during the past few centuries.¹⁸ While the next public health crisis may be different from COVID-19, the lessons we learned about the role of the transportation system in reducing the spread of disease and ensuring access to healthcare and medical supplies during a public health crisis remain.

3.2 TRAFFIC SAFETY

WILL TRAFFIC FATALITIES CONTINUE TO INCREASE?

Across Orange, Osceola, and Seminole counties, more than five individuals lose their lives and 27 suffer serious injuries on our roadways each week — a rate surpassing many other areas in Florida. More than one third of those fatalities involve pedestrians or bicyclists.¹⁹ In fact, traffic fatalities are the third leading cause of accidental death to all Central Floridians behind poisoning and falls.²⁰

¹⁵ Health Resources & Services Administration, Health Professional Shortage Area (HPSA) Find, 2024.

¹⁶ U.S. Centers for Disease Control and Prevention, CDC Transportation Recommendations: Improve Air Quality, 2023.

¹⁷ Florida Department of Health, Public Health Tracking System, 2022.

¹⁸ Centers for Disease Control, CDC Timeline, 2023.

¹⁹ Signal 4 Analytics, Florida Traffic Safety Dashboard, 2023 Crash Data.

²⁰ Florida Department of Health, Fatal Injuries Profile, 2022.

Multiple factors contribute to the large number of motor vehicle related fatalities in the region, including:

- the large and growing population and number of visitors
- the large and growing number of older residents with reduced ability to drive a vehicle
- the large and growing number of younger drivers who depend on driving a car due to lack of transit options and land use patterns that make biking or walking to school, work, or key destinations challenging
- the large number of pedestrians, bicyclists, and other vulnerable road users, in part due to the year-round good weather

MetroPlan Orlando is working with county and municipal governments to develop an integrated strategy for reducing the number of crashes and reducing the frequency of death and serious injury for people involved in crashes, through strategies that combine better education, enforcement, roadway design, post-crash care, and related factors.²¹

3.3 IMPLICATIONS FOR 2050

Table 8-4 illustrates the impact the health and wellness of communities could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-4 Public Health Implications to 2050 MTP Goals

Goal	Implication
Safety	Traffic crashes could remain a leading cause of death and serious injuries, and an aging population with declining health conditions could high be at risk for fatalities or severe injuries in crashes
Reliability	Increasing numbers of residents with disabilities or chronic health conditions may have specialized transportation needs and will increasingly depend on reliable options for accessing medical appointments and other health care services
Connectivity	Better access to healthcare, recreation, and fresh food—and more options for active transportation—could improve regional health outcomes
Community	Design of the built environment can impact both public health and transportation system design operations
Prosperity	Lower-income and historically disadvantaged communities often have less access to healthcare and higher rates of traffic fatalities, obesity, asthma, and other chronic health conditions

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Percent of population with one or more disabilities
- Percent of population with chronic health conditions
- Percent of population that is obese or overweight
- Percent of population with mental health concerns

²¹ VisionZeroCFL.gov.

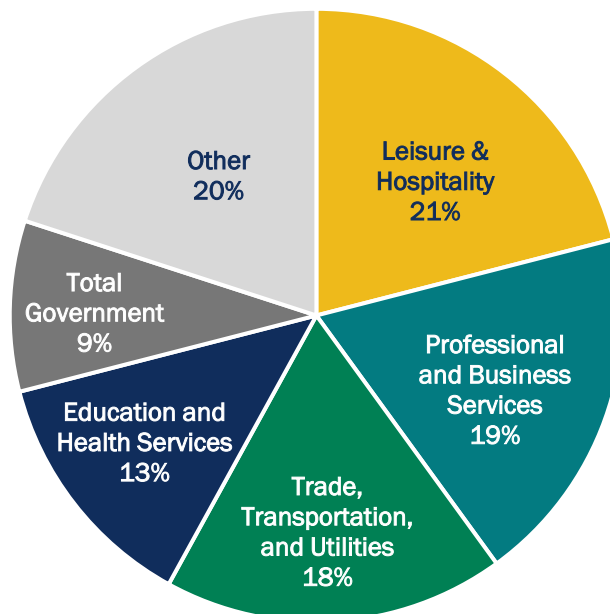
4 Economy

4.1 ECONOMIC DIVERSIFICATION

WHAT INDUSTRIES WILL DRIVE FUTURE ECONOMIC GROWTH?

Historically, Central Florida’s economy has been driven by agriculture, construction, hospitality, and other industries directly tied to the high rate of population growth and tourism. Figure 8-4 illustrates Central Florida’s largest industries in 2023. Five sectors — leisure and hospitality, professional and business services, trade, transportation, and utilities, education and health services, and government — comprised 80 percent of all employment in the region.

Figure 8-4 | Central Florida Employment by Industry (2023)



Source: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages, 2023 (Annual Average—for Orange, Osceola, and Seminole Counties)*.

This industry mix has several important implications for Central Florida’s economy and its transportation needs:

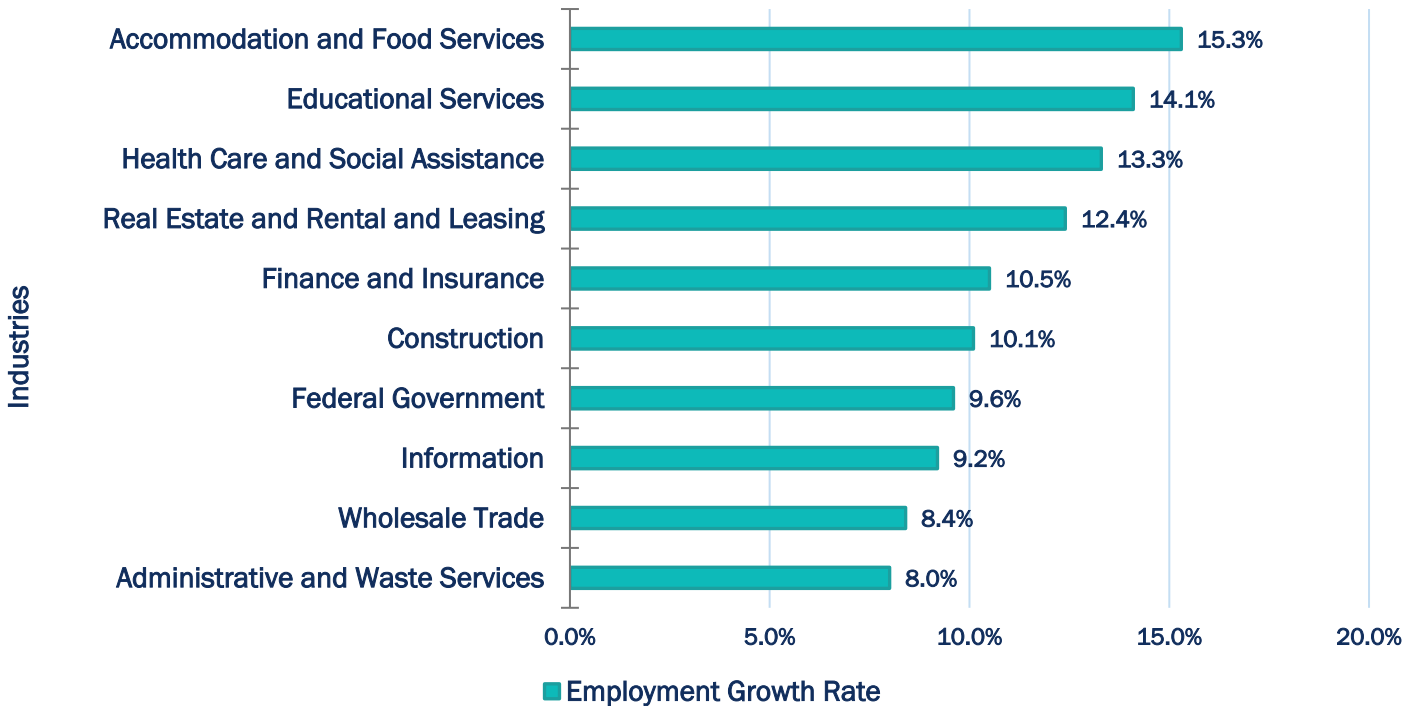
- This concentration of industries has led to significant economic growth, but also leaves the regional economy at risk to fluctuations to even one of these industries — as we saw during shocks to visitor activity during the COVID-19 pandemic, following the events of 9/11, or during periods of major contraction in the construction sector.
- Many of these industries (particularly hospitality and retail trade) include a large number of lower-paying jobs, leaving many workers with difficult choices of how to balance housing, transportation, and other costs of living. Across all three counties, average annual wages in hospitality and retail trade sectors are below the county-wide average and significantly below other sectors like professional services, manufacturing, and construction.²²

²² U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages, 2023 Annual Average—for Orange, Osceola, and Seminole Counties*.

- Many hospitality, retail, and services jobs are concentrated in specific geographic areas (particularly around International Drive and the attractions areas). Both visitors and employees in these areas may have unique travel patterns, particularly by time of the day and day of the week, when compared to the rest of the region.

Figure 8-5 shows projected employment growth by industry in the Central Florida region. The fastest growth in the next decade is projected to be many of the five largest sectors today, plus construction and additional services.

Figure 8-5 | Projected Central Florida Employment by Industry (2023-2031)



Source: Florida Commerce, 2023-2031 Top Industries by Projected Employment Growth Rate; Region: CareerSource Central Florida, 2023.

The Orlando Economic Partnership (OEP) is targeting growth in higher value sectors including advanced manufacturing, aerospace and defense, business services, clean technology, headquarters and regional offices, innovative technology, life sciences and healthcare, logistics and distribution, and semiconductors. Each of these industries could create additional growth, but they may require unique transportation strategies. In particular, many of these sectors depend on complex supply chains and high-value freight flows, often via trucking or air cargo. In some cases, jobs in these sectors are being created in specific locations, such as around the University of Central Florida, the Orlando International Airport, or emerging high tech job centers such as Project Neocity in Osceola County.

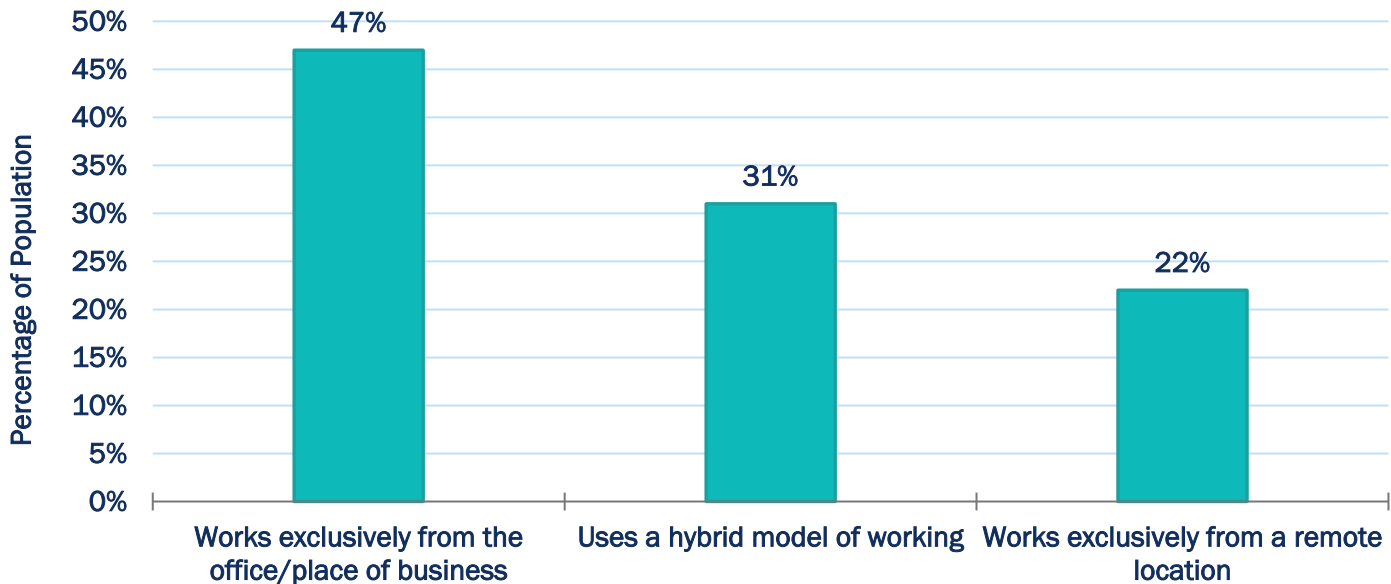
4.2 FLEXIBLE WORK SCHEDULES AND ENVIRONMENTS

HOW DOES THE CHANGING NATURE OF WORK INFLUENCE TRANSPORTATION NEEDS?

Starting in 2020, the number of employees shifting to a remote or hybrid business model has increased. This shifting business practice has created increased flexibility for many Central Florida employees and changed regional transportation demand. An Orlando Economic Partnership survey concluded that less than half of the

region’s workers work exclusively from their office or place of business (Figure 8-6). This mirrors national trends, with the U.S. Census reporting that in 2021 (most recent year available), nearly three out of four jobs were conducted on site and the remaining from home or in a hybrid environment.²³

Figure 8-6 | Share of Central Florida Workforce by Work Location



Source: Orlando Economic Partnership, Orlando Business Conditions Survey, Q4 2023. Survey includes responses from Orange, Osceola, Seminole, and Lake Counties.

The shift toward remote or hybrid work is amplified by more flexible work schedules. Nationally, more than one in four workers (27 percent) reported they had an irregular work schedule in 2022, either to meet their employer’s needs or at their own request.²⁴ About two out of five of job candidates nationally reported workplace flexibility is among the top three factors they consider, and 43 percent of employees reported flexible working hours increased their productivity.²⁵

For many workers, the combination of remote or hybrid work and flexible hours means fewer peak-period home-to-work trips for commuting purposes. This may reduce travel and associated parking needs in central business districts and commercial and industrial areas. However, some of this reduction in travel may be offset by more short trips throughout the day for errands and appointments, social activities, and recreational activities, as well as more home delivery of goods and services related to e-commerce.

Additionally, the “gig” economy, characterized by short-term contracts and freelance work, has seen an uptick over the years and continues to influence the way Central Floridians travel. Gig workers make up 16 percent of the American workforce and almost half of gig workers also have full-time jobs.²⁶ These gig workers, especially those that drive for ride-sharing companies, tend to travel to a variety of locations for work multiple times every day, rather than a single, consistent location.

²³ U.S. Census Bureau, 2020-2022 Survey of Income and Program Participation, 2022.
²⁴ Board of Governors of the Federal Reserve System, Economic Well Being of U.S. Households in 2022, 2023
²⁵ Forbes, Why Flexible Work Boosts Employee Productivity, 2022.
²⁶ Finmasters, 20+ Gig Economy Statistics for 2024: The State of Gig Work, 2024.

4.3 TRADE AND LOGISTICS

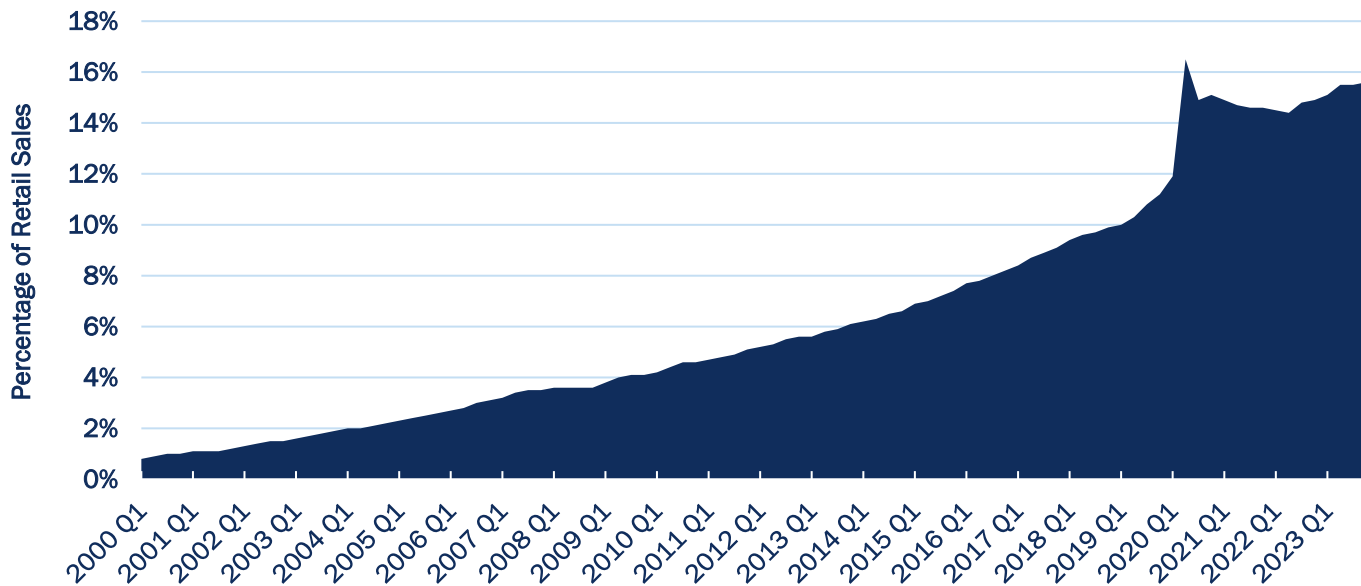
HOW WILL CHANGING TRADE AND LOGISTICS PATTERNS IMPACT OUR REGION?

Central Florida’s large population and dominant tourism industry creates significant demand for consumer goods and services. This demand puts pressure on the region’s logistics industry as vehicles of all sizes deliver goods to businesses and homes. Forecasts suggest an almost 70 percent increase in the volume of goods in the region from 2022 to 2050—and an almost 117 percent increase when measured by value.²⁷

Central Florida’s transportation system is heavily impacted by domestic and international trade, with trucks moving more than 80 percent of freight by volume, a trend anticipated to continue in the future.²⁸ The Orlando-Kissimmee-Sanford MSA ranked third in the state with over \$4 billion in exports.²⁹ With new warehouse and distribution center capacity coming online in the more affordable Polk and Volusia counties, efficient truck movements along key highway corridors will be critical. To ensure the availability of trucking services, significant investments are underway to provide an adequate supply of truck parking facilities. In addition, emerging technologies such as automation, artificial intelligence, electrification, and alternative fuels are becoming more mainstream. With these changes come additional demands for supporting infrastructure and workforce training.

E-commerce remains a driving force, making up nearly 16 percent of all retail sales in the U.S., a number likely to grow in the future.³⁰ Many of the consumer goods destined for the Central Florida region historically arrived through seaports in other states such as Georgia, California, and New York. This is a trend Florida’s seaports are working hard to change with significant investments in capacity and connectivity. Central Florida is served by multiple Florida seaports, including JAXPORT, Port Tampa Bay, and Port Canaveral.

Figure 8-7 | E-Commerce as a Share of U.S Retail Sales



Source: U.S. Census Bureau, 2023.

²⁷ FAF5, TETC; Analyzed by Cambridge Systematics.

²⁸ FAF5, TETC; Analyzed by Cambridge Systematics.

²⁹ International Trade Administration, Ranked Metropolitan Export Table, 2022.

³⁰ U.S. Census Bureau, Quarterly Retail E-Commerce Sales, May 2024

Since 2018, manufacturing jobs in Central Florida have increased by 9.8 percent,³¹ This growth reflects underlying economic growth as well as efforts to expand regional manufacturing and technology activity. For example, in addition, investment in the commercial space industry is creating high tech manufacturing opportunities in the Central Florida region. Current federal trade policy is further driving growth through domestic sourcing requirements (e.g., Build America, Buy America Act), and use of tariffs designed to protect and grow U.S. industry.

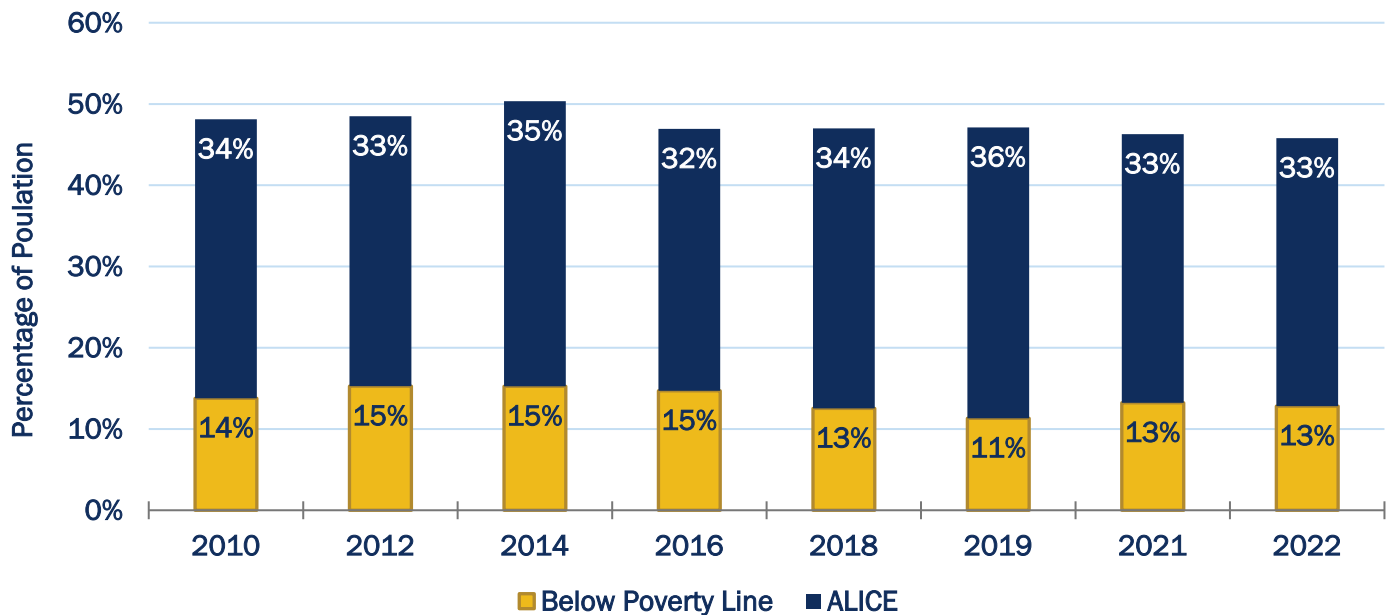
4.4 ECONOMIC PROSPERITY

IS ECONOMIC GROWTH BENEFITING ALL RESIDENTS?

In recent years, Central Florida’s economic growth has not fully benefited all residents. In 2022, nearly 13 percent of households in Central Florida earned incomes below the federal poverty line.³² In addition, 33 percent of households earned more than the federal poverty line but are considered Asset Limited, Income Constrained, and Employed (ALICE).³² In other words, nearly half of all households in Central Florida are financially insecure, often living paycheck to paycheck.

Transportation is the third highest cost for individuals (behind housing and food) and the fifth highest cost for a family of four (behind housing, child care, food, and healthcare).³² ALICE workers often work in essential services, hospitality, or other sectors where they may not have the flexibility to choose their hours or to work from home, so a higher transportation cost can have a disproportionate impact on their financial well-being. Many ALICE workers also do not have sufficient savings to address car repair bills or other transportation disruptions. Figure 8-8 shows the share of regional households below the federal poverty line or considered ALICE between 2010 and 2022.

Figure 8-8 | Percentage of Central Florida Households Earning Incomes below the ALICE or Federal Poverty Thresholds (2010-2022)



Source: United Way, ALICE in the Crosscurrents, 2023.

³¹ U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2023.

³² United Way, ALICE in the Crosscurrents, 2023.

More than 38,000 households in the Central Florida region did not have access to a car in 2022, and an additional 280,000 households had access to only one car.³³ With a median household size of nearly three people in Central Florida, approximately 40 percent of households must consider alternatives to driving alone to get where they need to go. Many ALICE households may choose to give up one or more vehicles to save on transportation costs, but this could limit their mobility and ability to get to work, childcare, the grocery store, or healthcare appointments.

4.5 IMPLICATIONS FOR 2050

Central Florida’s economic and workforce characteristics have fundamental impacts on future transportation needs and preferences. Table 8-5 illustrates the impact these economic development and prosperity trends could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-5 | Economy Implications to 2050 MTP Goals

Goal	Implication
Safety	Increasing global trade and supply chains could create risks related to smuggling, terrorism, and spread of infectious disease or invasive species
Reliability	Changing work and logistics patterns could spread trips throughout the day, reducing peak period congestion
Connectivity	New industries and activity centers may require additional connectivity between them and their customers, suppliers, and employees
Community	Improvements to quality of life and quality places in Central Florida could attract new talent and industries
Prosperity	Reducing the cost of transportation and providing alternatives to single occupancy vehicles could help nearly half of Central Florida households having trouble making ends meet A diversifying economy will require a variety of strategic transportation investments to attract new industries and the workforce to support them

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Percent of jobs in manufacturing and distribution
- Percent jobs in services
- Percent population working hybrid or fully remote
- Percent of households earning incomes below the ALICE threshold

³³ U.S Census, ACS 2022 5-Year Estimates Data Profiles—Selected Housing Characteristics Orange, Osceola, and Seminole Counties, 2022.

5 Visitation

5.1 VISITOR RECOVERY AND GROWTH

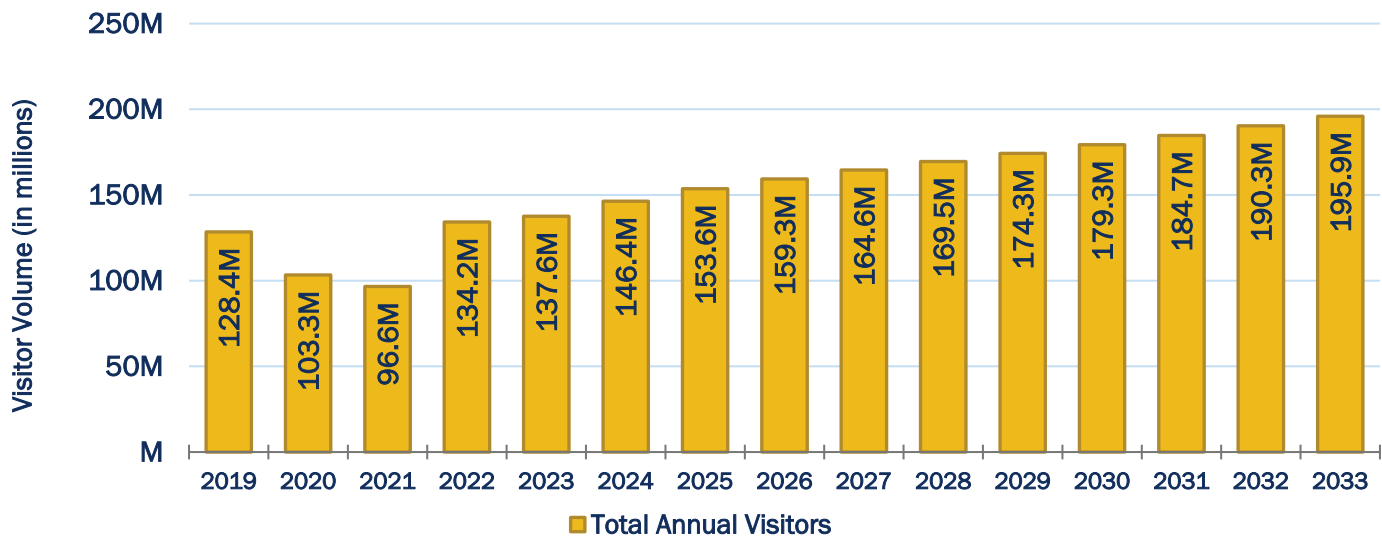
HOW MUCH MORE COULD TOURISM GROW IN CENTRAL FLORIDA?

The identity of Central Florida and the foundation of the region’s economy is built on robust visitor activity and the unique attractions that drive that activity. Central Florida’s attractions serve as significant origins and destinations that influence transportation demand, especially during peak seasons.

Central Florida has experienced consistent growth in visitor volumes for the past several decades, with only minor slowdowns during recessions or following major external shocks such as the terror attacks of September 11, 2001. The total number of visitors to the region increased 61 percent between 2009 and 2019, to 74 million.³⁴ The COVID-19 pandemic had a substantial impact on global travel, with only 35 million visitors traveling to the region in 2020. Central Florida’s tourism swiftly recovered, nearly reaching its 2019 peak in 2022.³⁴

This recovery mirrors the statewide trend, where the number of out-of-state visitors to Florida dropped from 128 million in 2019 to below 97 million in 2021, before recovering to a new record of 137 million visitors in 2022.³⁵ Figure 8-9 includes projections at the statewide level suggesting Florida’s number of annual visitors could increase by more than 50 million, or 42 percent, by 2033. If Central Florida matches this growth rate, by 2033 the region could accommodate an additional 31 million visitors per year. Given tourism’s substantial contribution to the region’s economy, any notable shifts in visitor numbers or travel patterns would impact both the economy and the transportation system.

Figure 8-9 | Florida Statewide Visitor Projections (2019-2033)



Source: Florida Office of Economic and Demographic Research, Florida Economic Estimating Conference, December 19, 2023.

³⁴ Visit Orlando. 2022.

³⁵ Visit Florida Annual Report 2022 – 2023. The Visit Florida and Visit Orlando visitor totals are not directly comparable: Visit Florida estimates total out-of-state visitors to the state, while Visit Orlando includes visitors from other parts of Florida.

HOW ARE VISITOR PATTERNS CHANGING?

The types of visitors coming to Central Florida and the places they visit continue to evolve. Leisure travelers from other parts of Florida and the United States accounted for more than 61 million visits in 2022 year—nearly five out of every six to the region. The number of leisure travelers recovered from the pandemic shock, reaching a new record in 2022. However, the number of business and convention travelers is still nearly 30 percent below 2019 levels. The number of international visitors, while up sharply in 2022, remains 25 percent below 2019 levels (Table 8-6).

Table 8-6 | Visitor Trends in Central Florida (2018-2022 totals, in thousands)

Segment	2018	2019	2020	2021	2022	% Change, 2021-2022
Domestic	68,555	69,297	33,626	57,226	69,141	21%
Leisure	57,265	58,119	28,722	49,684	61,201	23%
Business	11,290	11,177	4,904	7,543	7,940	5%
International	6,488	6,498	1,561	2,075	4,902	136%
Overseas	4,895	4,905	1,154	1,584	3,648	130%
Canada	1,211	1,223	368	168	860	412%
Mexico	382	370	129	323	394	22%
Total	75,043	75,795	35,277	59,301	74,044	25%

Source: Visit Orlando, Visitor Volume to Orlando, 2022

Different types of visitors have different transportation needs and preferences, with many longer-distance visitors arriving by air and renting a vehicle. The introduction of Brightline passenger rail service to Miami is anticipated to increase the number of visitors who come to Central Florida as part of broader trips across other parts of the state. Growth in the number of business travelers, or travelers pursuing specific interests such as outdoor and recreational activity or historic and cultural resources, could help spread the number of visitors beyond traditional markets such as the attractions areas.

5.2 IMPLICATIONS FOR 2050

Central Florida’s visitor activity has a fundamental impact on future transportation needs and preferences. Table 8-7 illustrates the impact the rate of the region’s visitor trends could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-7 | Visitation Implications to 2050 MTP Goals

Goal	Implication
Safety	Increasing number of travelers unfamiliar with the region may create safety risks
Reliability	Increasing number of visitors could increase congestion and reduce reliability around airports and major attractions
Connectivity	Potential growth in the number of business travelers and visitors to historical, cultural, and recreational amenities could spread visitor activity to other parts of the region beyond the attractions areas
Community	Need to continue to balance growth in visitor activity with protecting the region’s quality of life and environment
Prosperity	Tourism and hospitality could remain a key driver of job growth, particularly for ALICE workers

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Total number of visitors, including trip purpose
- Number of visitors arriving in the region by mode

6 Development

6.1 REGIONAL DEVELOPMENT PATTERNS

WHERE WILL FUTURE GROWTH AND DEVELOPMENT OCCUR?

Orange, Osceola, and Seminole counties together have a population of 2.4 million residents spread over 2,539 square miles. The population density is 943 persons per square mile for the overall tri-county area. This density is below the 1,220 persons per square mile density of the Palm Beach, Broward, and Miami-Dade tri-county area, and the 1,533 persons per square mile density of the Pasco, Hillsborough, and Pinellas tri-county area.³⁶

Compared to many other parts of Florida, the Central Florida region has few natural barriers, such as the Atlantic Ocean, Gulf of Mexico, or the Everglades, so the region has tended to grow and develop in multiple directions. There are multiple population centers in the three counties, including 22 cities and towns, as well as multiple economic centers that attract significant concentrations of jobs and visitors, including the International Drive/attractions areas, the Orlando International Airport, the University of Central Florida, and major hospitals. Significant portions of the region, particularly in eastern Orange County and eastern and southern Osceola County, remain in agricultural use or are important conservation and recreational areas.

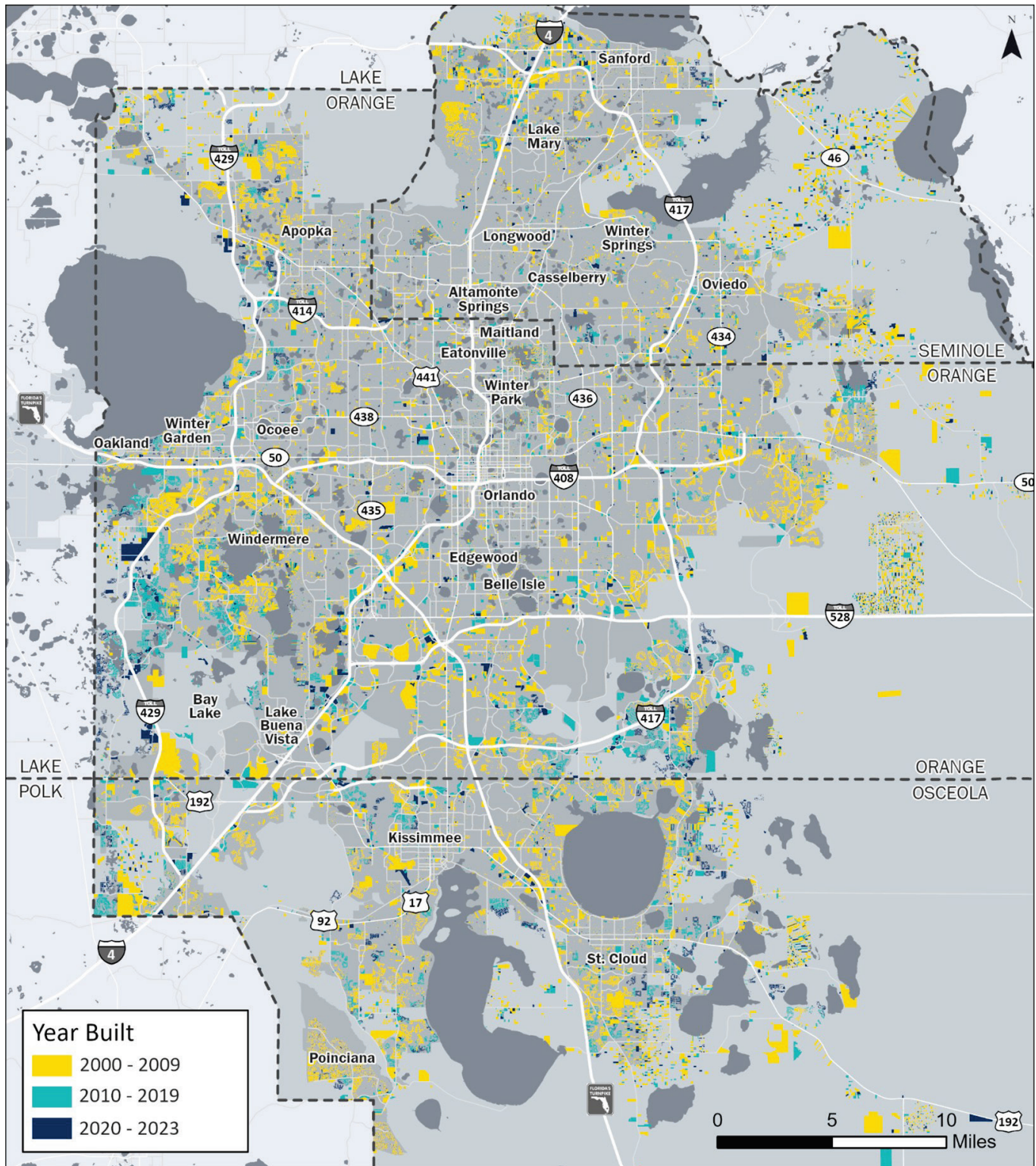
Figure 8-10 shows development trends since 2000 in the three counties. During the past few decades, new development has tended to occur along transportation corridors and in the outlying areas in the three counties, including:

- Northern Seminole County (particularly around Lake Mary and Sanford)
- Portions of eastern Seminole County
- Western Orange County (particularly around Apoka, Winter Garden, and Windemere)
- Portions of eastern Orange County (particularly around UCF/Innovation Way and Lake Nona to the southeast of the Orlando International Airport)
- Historic communities (such as Kissimmee and St. Cloud) and new master planned communities in Osceola County
- The “four corners” area where Orange, Osceola, Lake, and Polk counties meet


Nearly 15 years ago, 7 counties, 86 cities, and 5 metropolitan planning organizations came together to adopt the *How Shall We Grow?* shared regional vision, which described a future focused around the “4 Cs” of conservation, countryside, centers, and corridors. The East Central Florida Regional Planning Council (ECFRPC) developed its 2060 Strategic Regional Policy Plan to support this shared vision, and many local governments aligned their comprehensive plans to support the shared vision. In a 2019 retrospective report, *How Did We Grow?* the ECFRPC found regional population growth in the decade since the vision was adopted tracked projections closely, and the region had made progress at protecting more conservation land and slowing the pace of converting agricultural land and open space to new development.

³⁶ U.S. Census Bureau, QuickFacts (Osceola County, Florida; Orange County, Florida; Seminole County, Florida), 2023.

Figure 8-10 | Central Florida Development Map (2000-2023)



Source: MetroPlan Orlando, County Parcel Files, 2024



Looking to the future, the region faces choices about where future growth and development could occur. Based on current policies as well as market trends, the region could see future growth and development occurring in numerous ways:

- **Redevelopment and intensification of existing urban areas**, particularly along major transportation corridors including SunRail.
- **Further expansion and intensification of newer development centers** that emerged during the past few decades, such as western Orange County, Lake Nona, or northwestern Osceola County.
- **Development of smaller communities in outlying portions of the region**, where residents can enjoy a more rural or small-town lifestyle and take advantage of remote or hybrid work environments.
- **Potential development of new population or economic centers**, particularly if plans to develop portions of major agricultural lands such as the Deseret Ranch in Osceola County move forward.

All of these development choices will have implications for the transportation system, by shaping where, when, and how people travel. Mixed-use and higher-density urban developments will be able to support public transportation options, and areas with trails, sidewalks, mixed-use paths, and more robust local street networks will better support active transportation options.

6.2 COST OF HOUSING AND TRANSPORTATION

HOW WILL THE COST OF LIVING IN CENTRAL FLORIDA CHANGE?

Living in Central Florida can be an attractive option for many people due to its warm climate, natural beauty, urban amenities, employment opportunities, and recreational opportunities. However, affordability of the area will vary based on factors including the cost of housing and transportation.

Increasing housing costs often push lower-income residents out further from urban areas, resulting in longer commutes and related expenses like additional wear and tear on personal vehicles and more money spent on gas and tolls. Additional costs may impact decision-making on which mode to choose to save money, such as by taking public transportation on longer trips and bicycling or walking for shorter trips.

Across the country, the cost of housing has increased. This is also the case for Central Florida. Figure 8-11 shows how the monthly mortgage cost of a median house changed between 2018 and 2022 for the City of Orlando, City of Kissimmee, and City of Sanford, as well as Florida as a whole. Figure 8-12 shows how the monthly rental cost of a median house changed during the same period for the same locations.

Figure 8-11 | Mortgage Housing Costs (2018-2022)

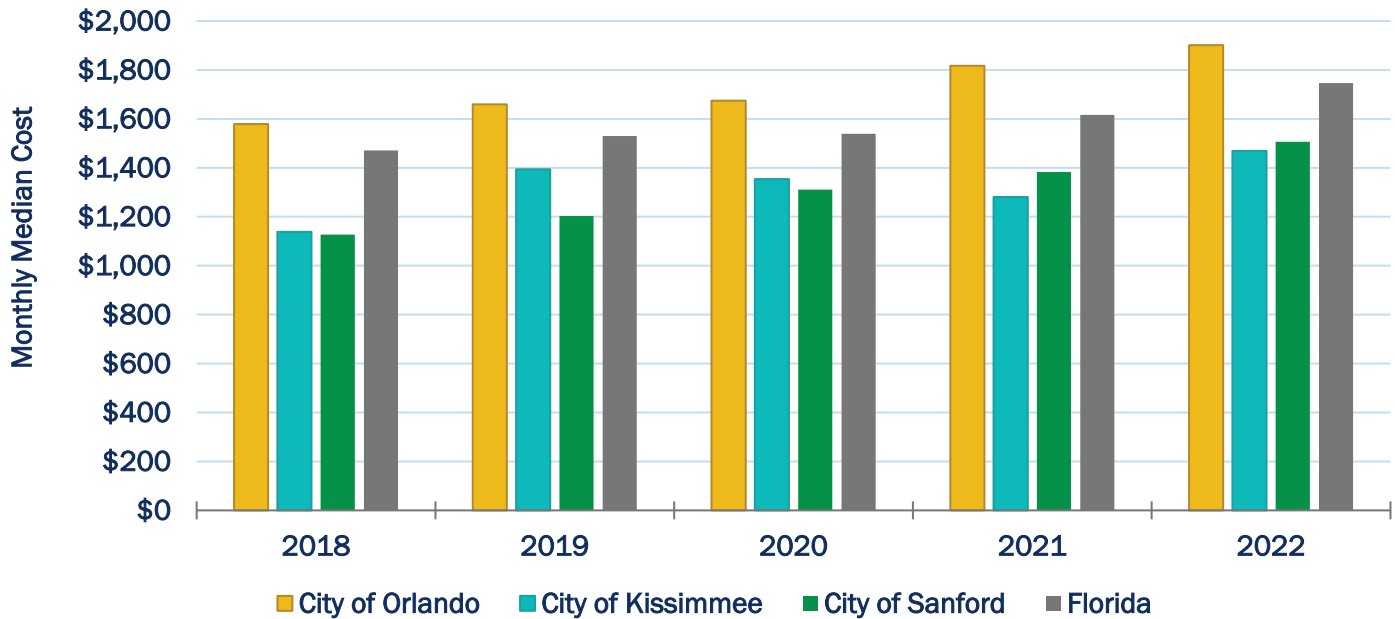
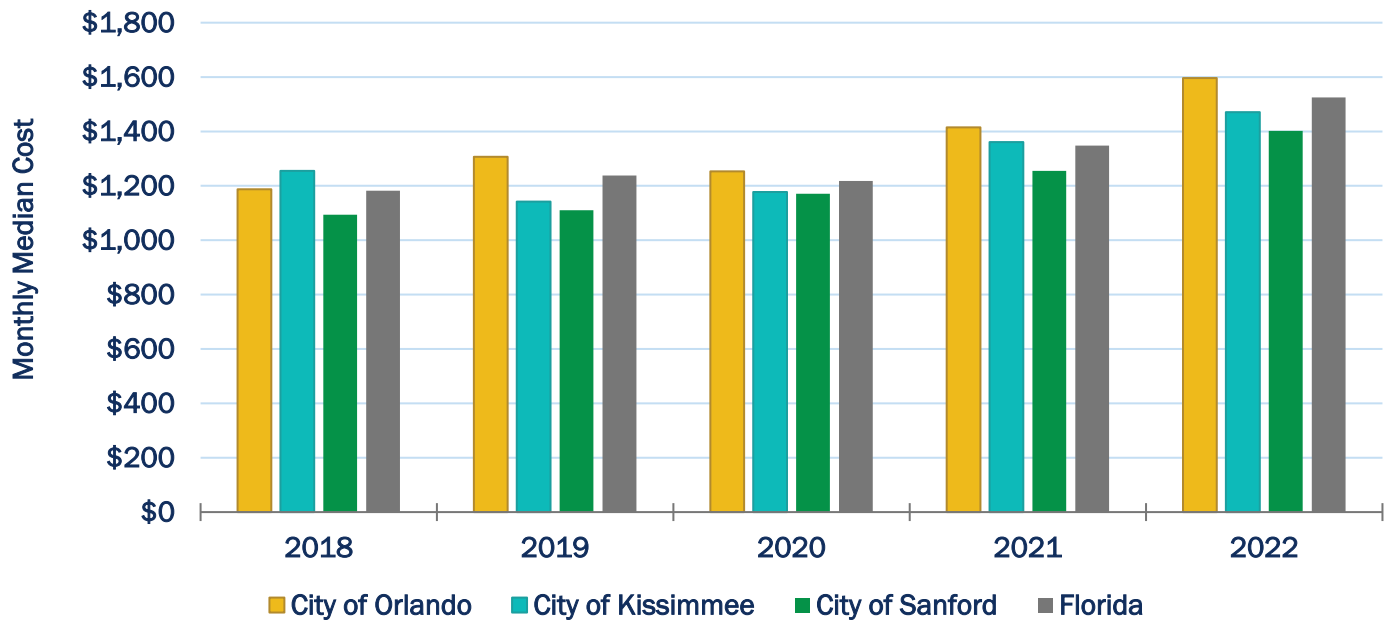


Figure 8-12 | Rental Housing Costs (2018-2022)

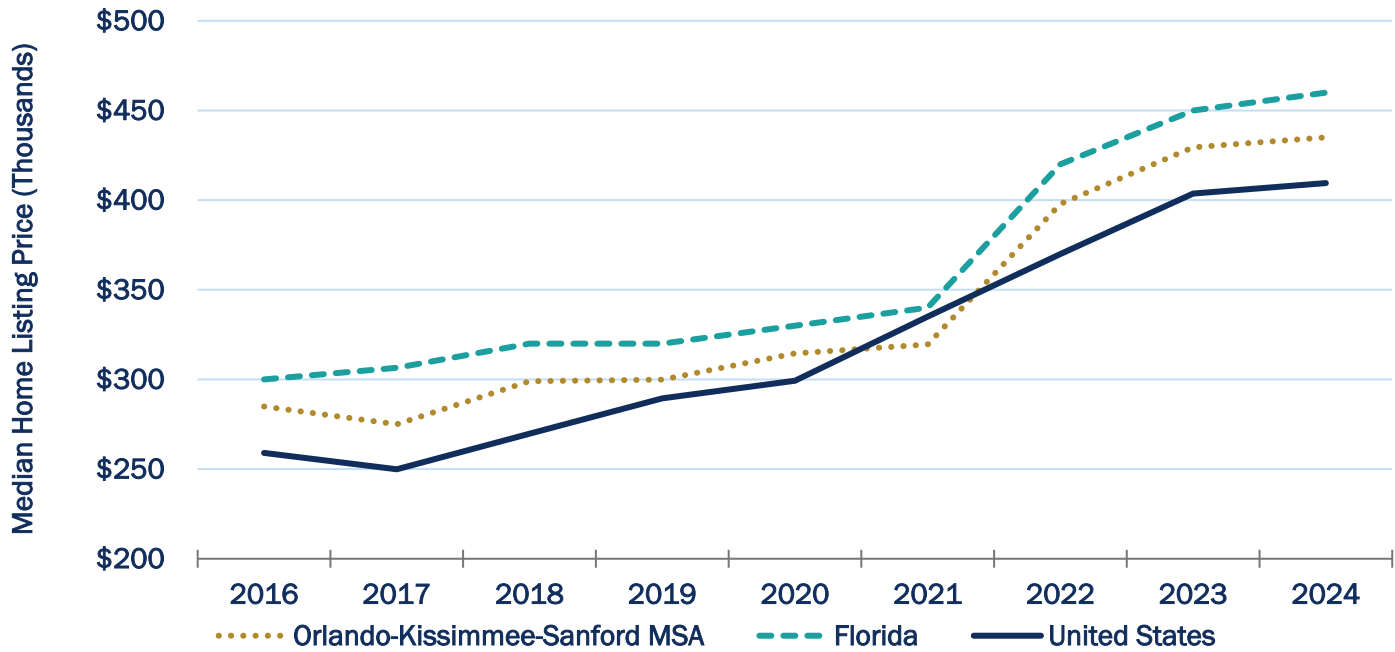


Source: U.S. Census Bureau, DP04 Selected Housing Characteristics. Numbers shown are for all housing units.

The median cost of housing units with a mortgage rose 20 percent between 2018 and 2022 for Orlando, 29 percent for Kissimmee, and 33 percent for Sanford. The median gross rent during the same time period rose comparatively for each of the three cities. These increases occurred alongside increases in occupied housing units and decreases in vacant housing units. The increases reflect nationwide growth in mortgage interest rates, as well as underlying home price appreciation in the region.

Figure 8-13 shows the comparison between listing prices in the Orlando-Kissimmee-Sanford MSA, Florida, and the United States.

Figure 8-13 | Median Home Listing Price for All Homes (2016-2024)



Source: FRED Economic Research, Median Listing Price in Florida, Median Listing Price in Orlando-Kissimmee-

Additionally, the Center for Neighborhood Technology provides a Housing and Transportation (H+T) Index, designed to offer a more comprehensive evaluation of affordability compared to the traditional approach of focusing solely on housing expenses. By factoring in both housing and transportation costs associated with the home’s location, the H+T Index reveals the true cost associated with housing choices. Calculating these expenses against the average income demonstrates the financial strain placed on a typical household by combined H+T expenses.

The traditional measure of affordability recommends that housing costs no more than 30 percent of household income. The H+T Index expands the measure to include transportation costs and sets the combined benchmark at 45 percent of household income for housing and transportation combined. For the MetroPlan Orlando tri-county area, the average household spent 30 percent of total income on housing and 24 percent on transportation in 2022, leaving 46 percent of remaining income for all other expenses, and exceeding the 45 percent recommended threshold by nine percent. The average household spent approximately \$14,000 annually on transportation costs, which includes auto ownership costs, auto use costs, and public transit costs. Transportation costs can be reduced over time with increases in transit ridership, which as of 2022 sat at three percent of workers.³⁷

6.3 IMPLICATIONS FOR 2050

Table 8-8 illustrates the impact the development trends could have on the region’s ability to accomplish its 2050 transportation goals.

³⁷ Center for Neighborhood Technology, H+T Index, 2024.

Table 8-8 | Development Implications to 2050 MTP Goals

Goal	Implication
Safety	Land use and community design decisions impact the safety of walking, bicycling, and driving.
Reliability	Changing development patterns could shift locations of significant demand for using highways, public transportation, and active transportation
Connectivity	Changing development patterns could shift locations of housing, jobs, education, health care, and other services
Community	Need to continue to balance growth with protecting the region's quality of life and environment
Prosperity	High cost of transportation and housing remains a barrier to lower-income households, and encourages lower income households to seek lower cost living in the outer areas of the region

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Location and density of new urban development
- Housing starts and median sales prices
- Percent of household income spent on housing and transportation

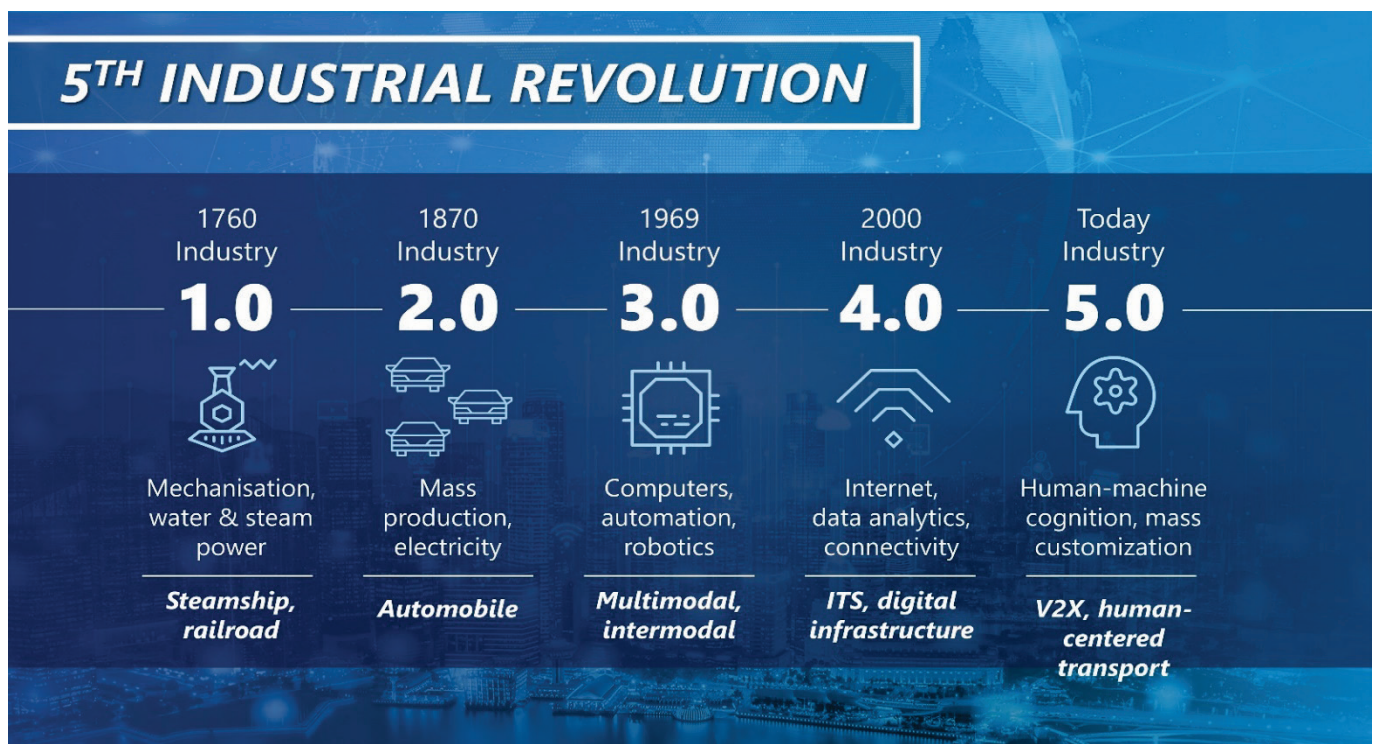
7 Technology

7.1 IDENTIFYING POTENTIAL DISRUPTORS

WHAT TECHNOLOGY IS CHANGING?

The pace of technological change seems to accelerate each year, potentially impacting every aspect of how we live, work, play, and interact with one another. During the past few decades, we have been undergoing what often is referred to as the 4th industrial revolution, driven by the combination of connectivity (particularly through the Internet), digitization, and data analytics (Figure 8-14). Many thought leaders believe we already are moving into a 5th industrial revolution, which will be characterized by increasing interaction between humans and machines and mass customization of products.

Figure 8-14 | The 5th Industrial Revolution




Source: Cambridge Systematics synthesis of various published studies.

Connectivity and artificial intelligence are driving these changes. In a recent World Economic Forum survey, more than three quarters of businesses said they planned to adopt or expand use of digital platforms and apps, big data analytics, connected devices, cloud computing, encryption and cybersecurity systems, e-commerce and digital trade systems, and artificial intelligence by 2027 (Figure 8-15).³⁸ Fortune Business Intelligence projects the global artificial intelligence market will grow from \$515 billion in 2023 to \$2.7 trillion in 2032.³⁹ The National Intelligence Council projects the number of connected devices will expand from 10 billion in 2018 to 64 billion in 2025 and trillions by the 2040s—all monitored in real-time.⁴⁰

³⁸ World Economic Forum, The Future of Jobs Report, May 1, 2023.

³⁹ Fortune Business Insights, Fortune Business Insights, Artificial Intelligence Market Size, Share & Industry Analysis, 2024-2032, May 6, 2024.

⁴⁰ National Intelligence Council, Global Trends 2040: A More Contested World, 2021.



These changes will impact how we live, work, and interact. Many existing jobs are at risk of automation—particularly for routine tasks—but many new jobs could be created in occupations related to technology as well as support functions such as customer service. Our workplaces, homes, and vehicles will be increasingly automated, with sensors and computers monitoring activity and performing routine tasks. From smart devices to wearable technology, many individuals will carry around significant personal computing power and sensing devices 24/7. Consumer goods and services will be increasingly customized, either through customer-driven orders with highly precise supply chains and delivery networks to our homes or places or businesses, or 3D printing/additive manufacturing that enables localized manufacturing of items as large as vehicles or homes.

HOW WILL EMERGING TECHNOLOGIES IMPACT HOW WE TRAVEL?

Prior industrial revolutions have introduced new forms of travel at a large scale—from the steamship and railroad to the motor vehicle and airplane, to the sophisticated intermodal and multimodal networks of today. During the past few decades, Intelligent Transportation Systems, Transportation Systems Management and Operations, and big data have provided more tools to help manage the transportation system and share information with customers on a real time basis. We also have seen early progress with automated, connected, electric, and shared vehicles.

There are many factors that may influence the pace of adoption of specific technologies between now and 2050, but mobility in Central Florida and other regions could change in at least five different ways:


Our vehicles will become increasingly automated and connected. Most new vehicles today come with significant on-board computers and sensors to help monitor conditions and warn the driver of potential risks. These capabilities are expected to expand over time. We may be decades away from fully automated vehicles that operate reliably without a driver, but automation increasingly will change the workload and focus of the driver. Automation is an opportunity for all modes, not just personal vehicles.

Our vehicles may become electric. We are already seeing rapid growth in the use of electricity to power cars, buses, bikes, and scooters — as well as new ways of powering ships and trains (see discussion in section 8, Energy).

Our vehicles may become shared. The rapid growth of ride-sharing services has created more options for people to travel, particularly in urban areas. Growth in ridesharing has impacted on the taxi and other traditional for-hire transportation services. In the future, it is possible that more people living in urban environments will choose to forgo owning a vehicle, and instead rely on ridesharing, active transportation, and public transportation to meet mobility needs.

Other modes of transportation may provide more choices. Just as ridesharing and micromobility emerged in the past decade, it is likely that new transportation innovations will create more options in the future. Some of these may be new forms of highly personalized rapid transportation, such as micro transit, automated shuttles, and advanced air mobility; others may be new forms of goods delivery, such as the use of drones or robots; still others may be new approaches to high-speed mass transportation, such as high-speed rail.

We may travel less, and substitute technology for travel. Today, more than half of Central Florida employees report that their workforce works remotely on a regular basis — in most cases, using broadband technology to replace a drive to the office (see discussion in section 4, Economy). Increasing numbers of people are participating in distance learning or telehealth services, again substituting technology for a trip. We stream movies at home instead of driving to the movie theater, we participate in virtual gatherings in lieu of in-person events, and in the future, we may choose virtual reality over travel experiences.



While all of these changes offer the potential to improve transportation safety, reliability, and resiliency, there will be a period of transition until these are in widespread use. In addition, we must be careful about not creating or sustaining a “digital divide” where some communities or socioeconomic groups do not have the same level of access to new technologies and therefore cannot fully benefit from them. Finally, emerging technologies are introducing new risks related to data privacy, cybersecurity, and potential for misinformation or disinformation.

HOW WILL EMERGING TECHNOLOGIES IMPACT HOW WE MANAGE THE TRANSPORTATION SYSTEM?

The same set of technologies will give us many more tools for how we operate and manage the transportation system. These may include:

- Optimization of traffic flow, such as integrated corridor management systems
- Monitoring of road or other infrastructure on a real-time basis, with decision support systems
- Automated detection of traffic incidents
- Automated of pedestrians or other vulnerable road users in right of way
- Real-time monitoring of driver fatigue and distraction
- Real-time management of parking, staging areas, and other facilities
- Real-time management of supply chains and distribution networks
- Automated enforcement

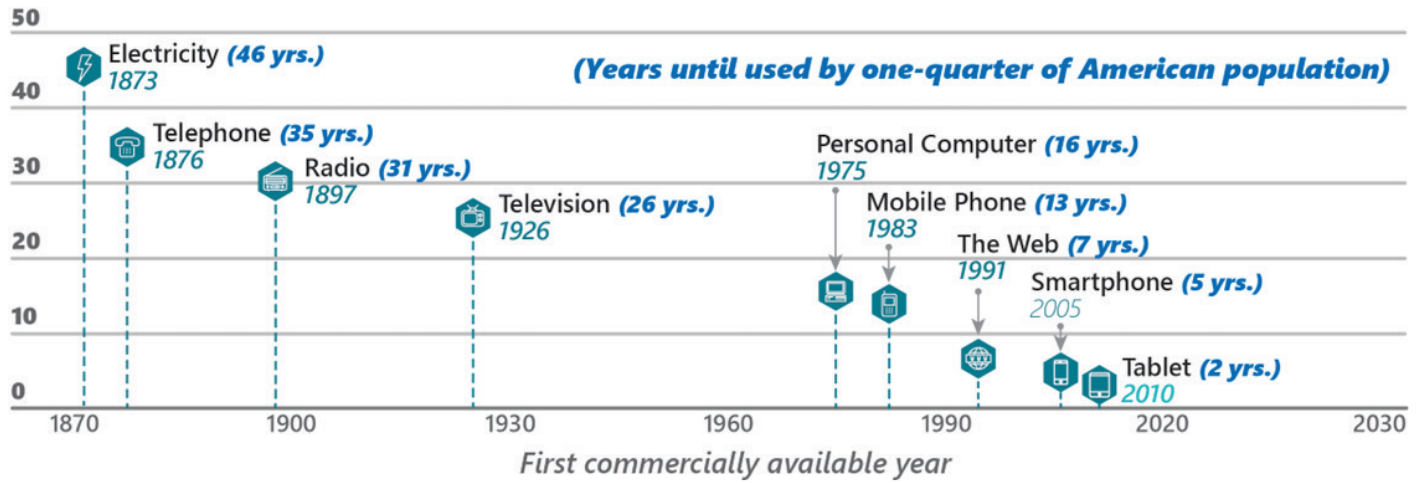
At the same time, these technologies will create new concerns for transportation agencies, including training the workforce to manage these systems, managing increasing amount of data, and mitigating or responding to cybersecurity events.

HOW QUICKLY WILL TECHNOLOGY CHANGE?

Just as the pace of these industrial revolutions seems to be accelerating, so too is the rate of adoption of new technologies. In the past, it took more than three decades for at least one quarter of the U.S. population to adopt new technologies such as electricity, radios, and televisions; in recent years, the smartphone and tablet were adopted by one-quarter of the population within a matter of years, and the latest app often seems to reach that level of adoption within months (Figure 8-15).⁴¹

⁴¹ Cambridge Systematics, Inc. synthesis of work by singularity.com and other researchers.

Figure 8-15 | Historical Adoption of New Technologies



Source: Cambridge Systematics synthesis of work by singularity.com and other researchers.

Several of the technological innovations described in this section are already available for use. However, the period of transition from the technology’s introduction to its full-scale implementation and adoption will take time. This transition period will require supporting both existing and new technologies, such as electric and automated vehicles and as well as traditional vehicles still in the fleet. These may create some near- to medium-term challenges in terms of sharing infrastructure and managing the system.

There are multiple projections for the rate of adoption of new transportation innovations, and the transition period will vary for each. Table 8-9 shows a recent synthesis of industry forecasts prepared by the Victoria Transportation Policy Institute for the projected adoption of fully automated (or driverless) vehicles, and a discussion of electric vehicle adoption is included in section 8, Energy. While each forecast varies, most believe that the transition from one technology to the full adoption of the next version will take decades, not years.

Table 8-9 | Autonomous Vehicle Market Penetration Projections

Stage	Decade	New Sales	Fleet	Travel
Development and testing	2020s	0%	0%	0%
Available with large price premium	2030s	2-5%	1-2%	1-4%
Available with moderate price premium	2040s	20-40%	10-20%	10-30%
Available with minimal price premium	2050s	40-60%	20-40%	30-50%
Standard feature included on most new vehicles	2060s	80-100%	40-60%	50-80%
Saturation (everybody who wants it has it)	2070s	?	?	?
Required for all new and operating vehicles	?	100%	100%	100%

Source: Todd Litman, Victoria Transport Policy Institute, *Autonomous Vehicle Implementation Predictions Implications for Transport Planning*, December 12, 2023.

7.2 IMPLICATIONS FOR 2050

Table 8-10 illustrates the impact technology changes and disruptions could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-10 | Technology Implications to 2050 MTP Goals

Goal	Implication
Safety	Better awareness of potential risks and automated assistance for drivers and other travelers could significantly reduce traffic fatalities and serious injuries Technology can enhance evacuation routes and services before, during, and after natural disasters or emergency events.
Reliability	The ability to monitor infrastructure condition and travel in real time could significantly improve asset conditions and travel time reliability—but customer expectations for use of new technologies could remain high
Connectivity	Data and technology connectivity through broadband may become as important as transportation connectivity
Community	Technology could benefit public health and environmental quality as well
Prosperity	Technology could create new jobs and market opportunities- but a digital divide risks leaving part of our population behind

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Percent of population with access to high-speed broadband and a smart device
- Miles of infrastructure outfitted with sensors and other digital infrastructure

8 Energy

8.1 ENERGY CONSUMPTION

CAN WE ENSURE SUFFICIENT ENERGY FOR A GROWING ECONOMY?

The energy sector is rapidly evolving, with implications for how we power transportation vehicles as well as how we use the transportation system to generate, store, and transmit energy.

Global energy consumption is expected to increase almost 34 percent between 2022 and 2050, to more than 854 quadrillion British thermal units (Btu) per year.⁴² In the United States, energy consumption is projected to increase up to 15 percent during that period, as increasing population and gross domestic product offsets efforts to increase energy efficiency.⁴³ Demand growth is projected to be strongest in the industrial and transportation sectors.

Increasing electricity usage will be a critical driver of overall energy demand, as the continued shift toward use of computers and smart devices, and the need to support large data centers, increases use of electricity. The shift toward electricity to power transportation vehicles could be particularly strong, with forecasts suggesting transportation-related demand for electricity could increase as much as 20-fold over 2022 levels.⁴³ Total installed electricity generating capacity is projected to more than double across multiple scenarios considered by the U.S. Energy Information Administration.

Florida is a major energy consumer, using seven times more energy than it produces today. Nearly 90 percent of households rely on electricity for heating and air conditioning, accounting for more than 54 percent of the state's electricity usage, the highest share among all states. With the state's significant tourism and large population, Florida also is one of the largest consumers of motor fuel and jet fuel.⁴⁴

Renewable electricity generating capacity is projected to grow in all regions of the United States, reflecting the need to produce more electricity and to achieve carbon reduction goals. Solar generating capacity is projected to increase 325 percent to 1019 percent from 2022 levels, while wind generating capacity grows by about 138 percent to 235 percent. In some scenarios, solar and wind could account for a majority of U.S. electricity generation by 2050. This means more emphasis on finding locations suitable for solar and wind power generation, as well as ways to store and transmit energy. As the Sunshine State, Florida experienced significant growth in solar installations in recent years. Utilities are the primary investors in solar energy, with approximately 77 percent of solar generating capacity located at utility-scale facilities.⁴⁵

⁴² U.S. Energy Information Administration, International Energy Outlook 2023 with projections to 2050, October 2023.

⁴³ U.S. Energy Information Administration, Annual U.S. Energy Outlook 2023, March 2023.

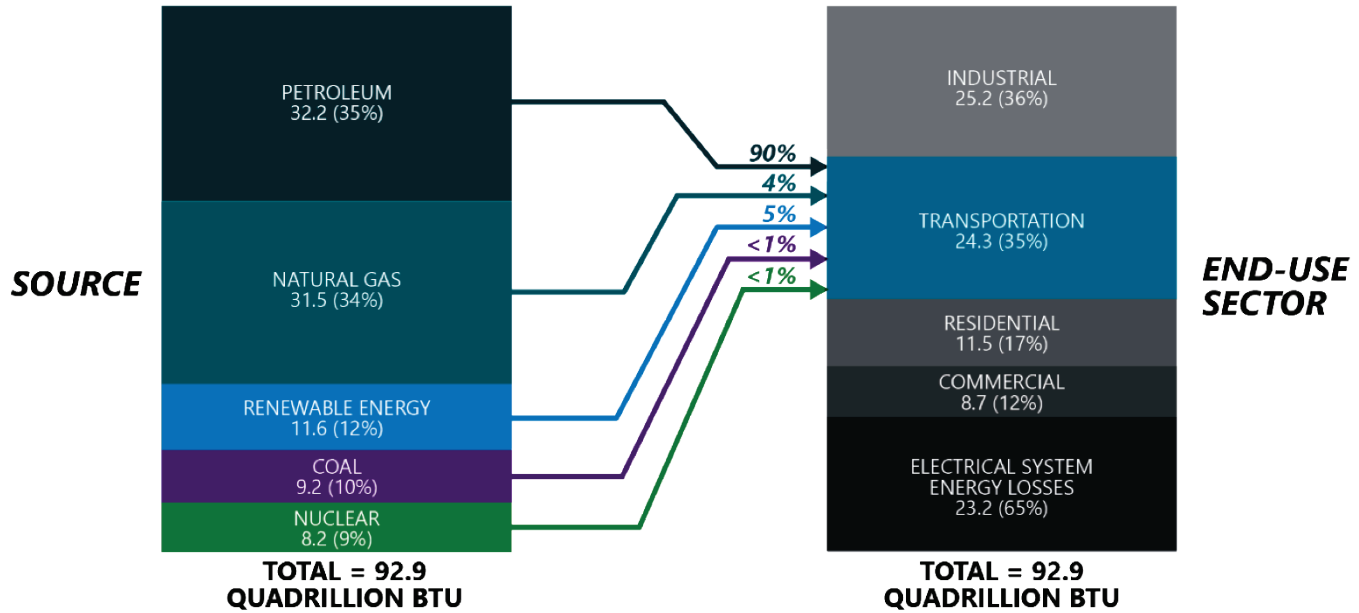
⁴⁴ U.S. Energy Information Administration. 2024.

⁴⁵ U.S. Energy Information Administration, Annual U.S. Energy Outlook 2023, March 2023.

HOW WILL CHANGING ENERGY MARKETS IMPACT THE TRANSPORTATION SECTOR?

Transportation accounted for 35 percent of U.S. energy demand in 2020, and petroleum accounted for 90 percent of transportation fuel sources (Figure 8-16).

Figure 8-16 | U.S. Energy Consumption by Source and Sector (2020)



Source: U.S. Energy Information Administration, Annual Energy Outlook 2022 (AEO2022).

U.S. transportation energy consumption is expected to grow slowly through 2050, with increases in demand offset by increasing efficiency of vehicles and systems. Electricity is projected to remain a small but growing source of energy for transportation, with applications in multiple modes including electric vertical takeoff and landing aircraft, shore power for boats, and e-bikes and electric vehicles for ground transportation creating new sources of demand. The U.S. Energy Information Administration projects electric vehicles will account for more than one in six light duty vehicle sales by 2030, with other industry forecasts suggesting that figure could exceed 30 percent during that period (Figure 8-17). Other alternative energy sources for transportation vehicles include hydrogen powered fuel cells.

Central Florida and other regions are preparing for this shift to electric-powered transportation by locating electric vehicle charging stations and other alternative fuel charging infrastructure. More than 167,000 electric vehicles were registered in Florida in 2023, and more than 10,803 private and public electric vehicle charging stations are operational statewide.⁴⁶ Florida has the 2nd highest number of electric vehicle registrations in the nation with 6 percent of the country's total. Charging stations such as the Robinson Recharge Mobility Hub, which provides Level 3 chargers, also known as Direct Current Fast Charging stations, can fully charge an electric vehicle just in 20 minutes.⁴⁷ LYNX has already acquired battery electric buses, which will be utilized on the Bus Rapid Transit (BRT) system in downtown Orlando.

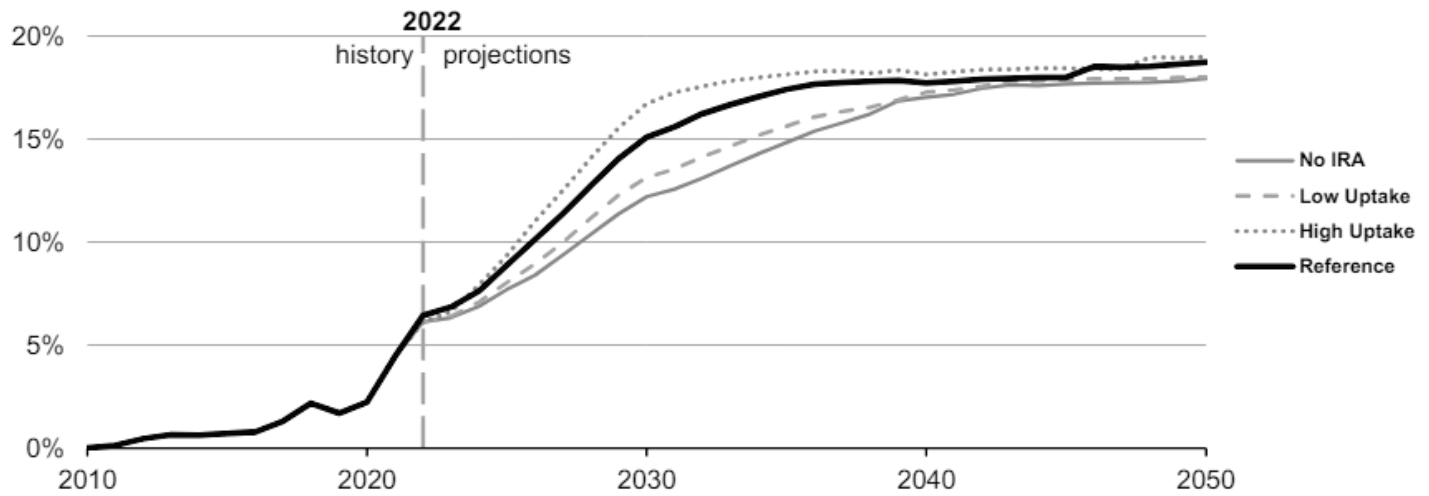
Increasingly, states are exploring how to use the transportation system to generate, store, and transmit energy. Approaches include locating solar or wind generating capacity, battery storage, or transmission lines in

⁴⁶ U.S. Department of Energy, Alternative Fuels Data Center. 2023.

⁴⁷ Orange County Government, 2021.

transportation right of way. The Central Florida Expressway Authority has initiated a pilot test allowing specially equipped electric vehicles to charge wireless as they travel at highway speed on a segment of the new Lake-Orange Expressway.

Figure 8-17 | Market Share of Electric Light-Duty Vehicles (2010-2050)



Source: U.S. Energy information Administration, Annual Energy Outlook 2023, 2023.

8.2 IMPLICATIONS FOR 2050

Table 8-11 illustrates the impact energy changes and disruptions could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-11 | Energy Implications for 2050 MTP Goals

Goal	Implication
Safety	Need for training on responding to crashes involving electric and alternative fuel vehicles, as well as security needs around charging stations and other energy infrastructure
Reliability	Need strategy to maintain charging stations and other energy infrastructure in good condition, as well as to continue to increase capacity to meet demand
Connectivity	Locations for energy infrastructure including charging stations could shift to meet changing regional needs and travel patterns
Community	Potential to reduce greenhouse gas emissions and the environmental footprint of infrastructure through co-location of transportation and energy infrastructure
Prosperity	Potential to create new industries and jobs—but also a risk of leaving some communities behind.

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Percent of transportation energy from renewable sources
- Electric vehicle registrations or sales

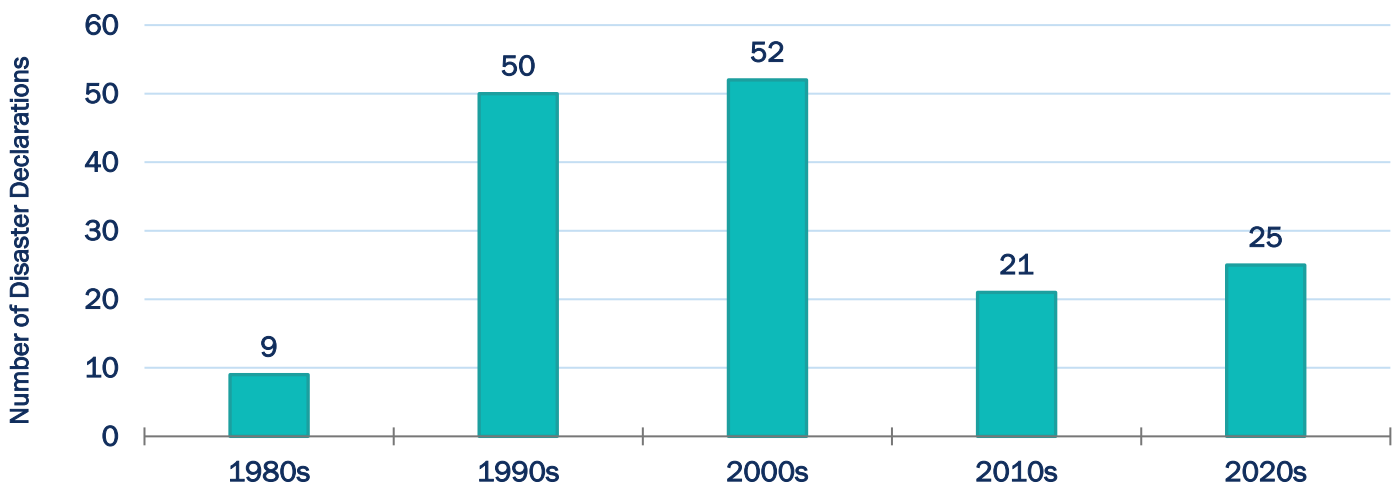
9 Climate and Risks

9.1 NATURAL DISASTERS

ARE WE READY FOR MORE FREQUENT AND SEVERE NATURAL DISASTERS?

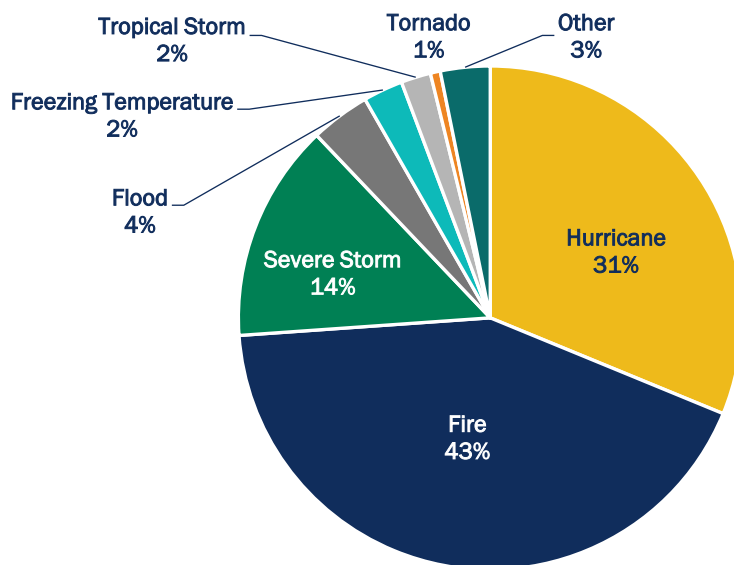
The frequency and severity of extreme weather events and other natural disasters appears to be increasing across the globe. Since 1980, the Federal Emergency Management Administration has declared at least 157 disaster events in Florida. A total of 25 disasters were declared between 2020 and 2023, putting this decade on a pace to exceed the rate of the 1990s and early 2000s (Figure 8-18). The majority of these disasters were fires, hurricanes, and other severe or tropical storms (Figure 8-19).

Figure 8-18 | Disaster Declarations in Florida (1981-2023)




Source: Federal Emergency Management Agency (FEMA), Florida Declared Disasters, 2023.

Figure 8-19 | Disaster Declarations by Type (1980-2023)



Source: Federal Emergency Management Agency (FEMA), Florida Declared Disasters, 2023.



These disasters can disrupt the transportation system and the communities it serves. Recent hurricanes, tropical storms, and other extreme weather events have disrupted travel and daily life in Central Florida, causing residents to shelter in place or evacuate to emergency shelters or to other regions and states. Major events disrupt travel as residents prepare for the storm, evacuate, and then return to their homes. Major events also may disrupt supply chains and the flow of fuel, food, and other essential goods. After a major event, there typically is an influx of emergency responders, construction workers, and other personnel to help respond to and recover from storm damage.

Because of its central, inland location in the state and large number of hotel rooms, Central Florida is a frequent destination for residents evacuating from coastal Florida. Many coastal or southern Florida residents also may drive through Central Florida if they are evacuating to other states, so the region often is disrupted by storms that may not have a direct hit upon the area.

In addition to the risks to life and property during these events and other short-term disruptions if residents evacuate and/or shelter in place, some disasters have longer-term impacts related to destruction or damage to infrastructure and property that may take years to recover.

9.2 CLIMATE RISKS

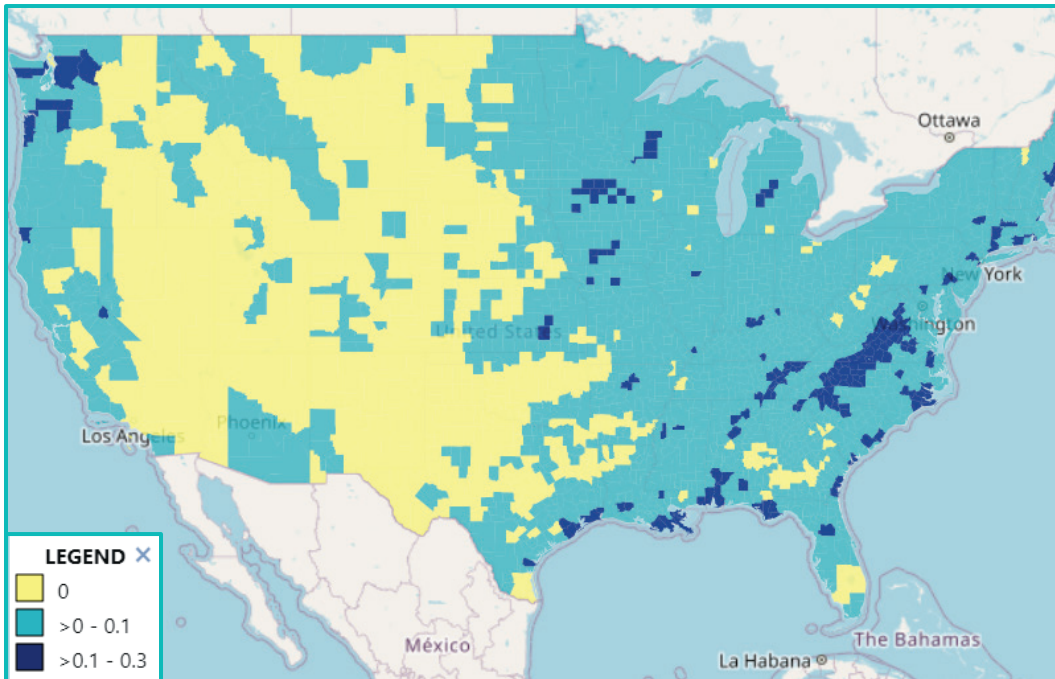
ARE WE PREPARED FOR LONG-TERM SHIFTS IN CLIMATE?

Beyond specific short-term disasters, the Central Florida region must prepare for the long-term impacts of a changing climate. Increasing global temperatures are anticipated to result in rising sea levels, more frequent and severe precipitation (as well as periods of drought in some locations), and longer and more severe periods of extreme heat.

Central Florida is an inland area and will not be directly impacted by rising sea levels. However, there is potential for residents of coastal communities to relocate to inland locations like Central Florida.

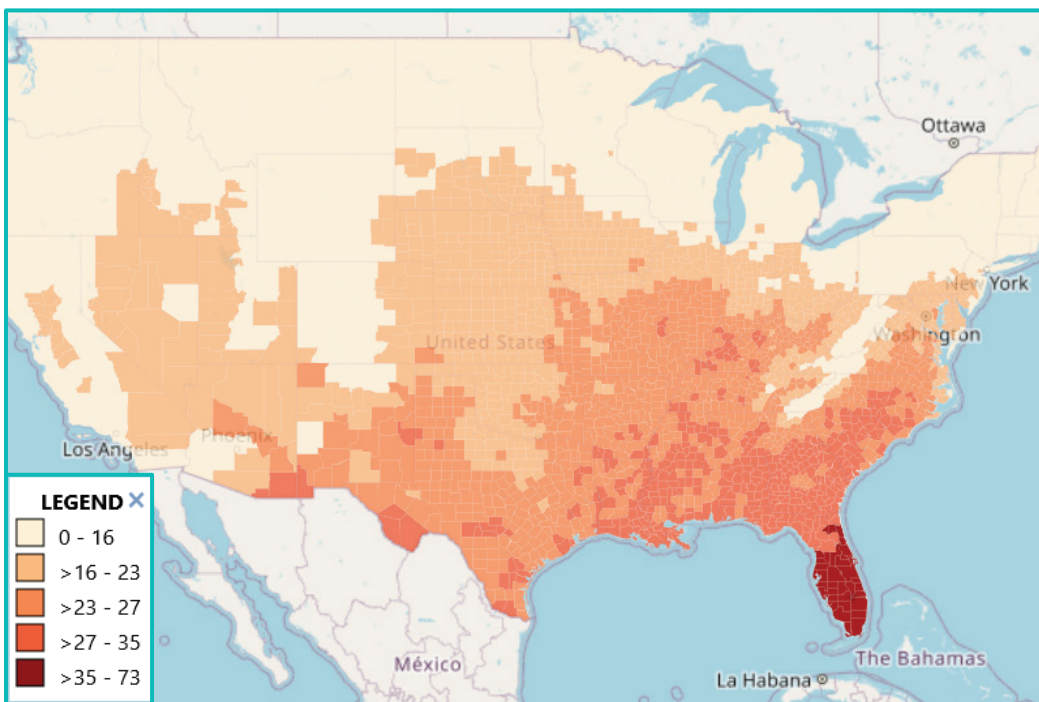
Much of the Florida peninsula is projected to experience an increase in extreme precipitation during the next few decades, which will create risks related to inland flooding and stormwater management (Figure 8-20). The Florida peninsula also faces the greatest risk of extreme temperatures of any region in the nation, with the potential for as many as 73 additional days with temperature above 90 degrees Fahrenheit each year by 2045 (Figure 8-21). Prolonged periods of extreme heat create health risks to large segments of the population, make outdoor work and recreation more challenging, and threaten many agricultural activities. Extreme heat also can disrupt the transportation system by increasing the surface temperature of pavement, runways, and other infrastructure. These temperatures can increase maintenance costs for infrastructure and operating costs for vehicles. They also can create health challenges for people seeking to walk or bike or even just wait outdoors for a ride.

Figure 8-20 | Projected Increase in Maximum Precipitation During an Extreme Event (24-Hour Duration)



Source: Centers for Disease Control and Prevention. National Environmental Public Health Tracking Network, 2016-2045 differences under RCP 4.5 (low emissions scenario).

Figure 8-21 | Projected Increase in Extreme Heat Days (90°F Threshold)



Source: Centers for Disease Control and Prevention. National Environmental Public Health Tracking Network, 2016-2045 differences under RCP 4.5 (low emissions scenario).

9.3 OTHER RISKS

WHAT OTHER RISKS MIGHT WE FACE?

Although most of the region’s attention in the past few decades has been on extreme weather and climate risks, there are other risks from intentional and un-intentional harms that could disrupt our transportation system, communities, and economy. In its annual survey of risk managers, the World Economic Forum in 2024 reported that nearly two of three global leaders expect a “stormy” or “turbulent” outlook for the next 10 years (Figure 8-25). More than two out of three identify extreme weather events as the greatest global risk, followed by other climate-related risks such as disruptions of earth systems such as the Gulf Stream, loss of biodiversity or ecosystem collapse, and natural resource shortages. Other key risks related to technology such as artificial intelligence and to social events, such as the potential for involuntary migration or additional polarization of society.

The Central Florida region could face many of these risks between now and 2050, including:

- The potential for another pandemic or epidemic (see discussion under Public Health, section 3);
- The potential for shortages of water, energy, or food related to both population growth and climate-related trends;
- The potential for a major cybersecurity event that could impact critical infrastructure (see discussion under Technology, section 7);
- The potential for other adverse outcomes of artificial intelligence and other emerging technologies, such as misinformation or disinformation;
- The potential for conflict in Europe, Asia, or other locations to disrupt trade and visitor flows and access to critical materials such as energy, semiconductors, or minerals such as lithium, copper, nickel, and cobalt that are critical for electronics and battery storage.

Figure 8-22 | Most Severe Global Risks

“IDENTIFY THE MOST SEVERE RISKS ON A GLOBAL SCALE OVER THE NEXT 10 YEARS”



■ ENVIRONMENTAL
 ■ TECHNOLOGICAL
 ■ SOCIETAL

Source: World Economic Forum, 2024.

9.4 IMPLICATIONS FOR 2050

The past few decades have taught us that we cannot fully anticipate every potential risk and disruption, so we should focus on being agile and resilient as a region in all situations. Table 8-12 illustrates the impact climate and other risks could have on the region’s ability to accomplish its 2050 transportation goals.

Table 8-12 | Climate and Risks Implications to 2050 MTP Goals

Goal	Implication
Safety	Increasing number of safety and security risks
Reliability	Potential for disruption of travel and logistics patterns and damage to critical infrastructure and systems
Connectivity	Risk to critical community connections such as access to health care and essential services during extreme weather and disruptions; potential need for greater redundancy and resiliency
Community	Risks to public health, quality of life, and critical environmental systems; potential benefits from resilient community design strategies that safeguard against risks and enable more rapid response and recovery from events
Prosperity	Risks to economic activity during disruptions, particularly in key sectors such as tourism, construction, and logistics; potential for disproportionate impact on lower-income communities; potential for industry growth related to creating more resilient communities

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Number of days with extreme precipitation
- Number of days with extreme heat

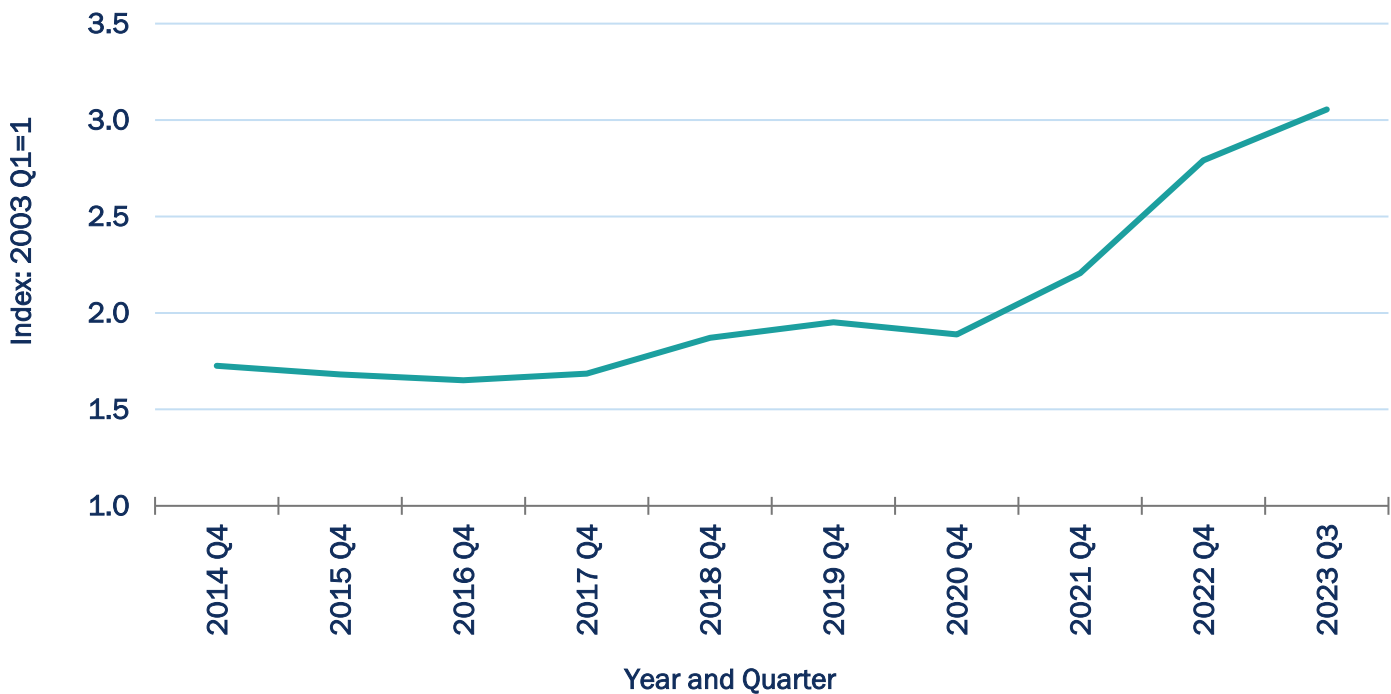
10 Transportation Costs

10.1 CAPITAL AND OPERATING COSTS

WILL THE COST OF BUILDING, MAINTAINING, AND OPERATING TRANSPORTATION SYSTEMS CONTINUE TO INCREASE?

After several years of stability, the cost of building and maintaining transportation systems has been rising sharply during the past few years. The National Highway Construction Cost Index, maintained by the U.S. Bureau of Transportation Statistics, increased nearly 50 percent between the end of 2020 and the third quarter of 2023 (latest data available) (Figure 8-23). This index measures the average prices paid by state transportation departments for roadway construction materials and services over time. This increase reflects increased demand for highway construction in response to the significant increase in federal transportation funding through the Infrastructure Investment and Jobs Act (IIJA) in 2021 and increased demand for construction labor and materials from a strong economy as we emerged from the economic shock created by the COVID-19 pandemic. This increase also reflects economy-wide inflation during the past few years, as well as supply chain constraints and shortages of specific materials.

Figure 8-23 | National Highway Construction Cost Index (2014-2023)



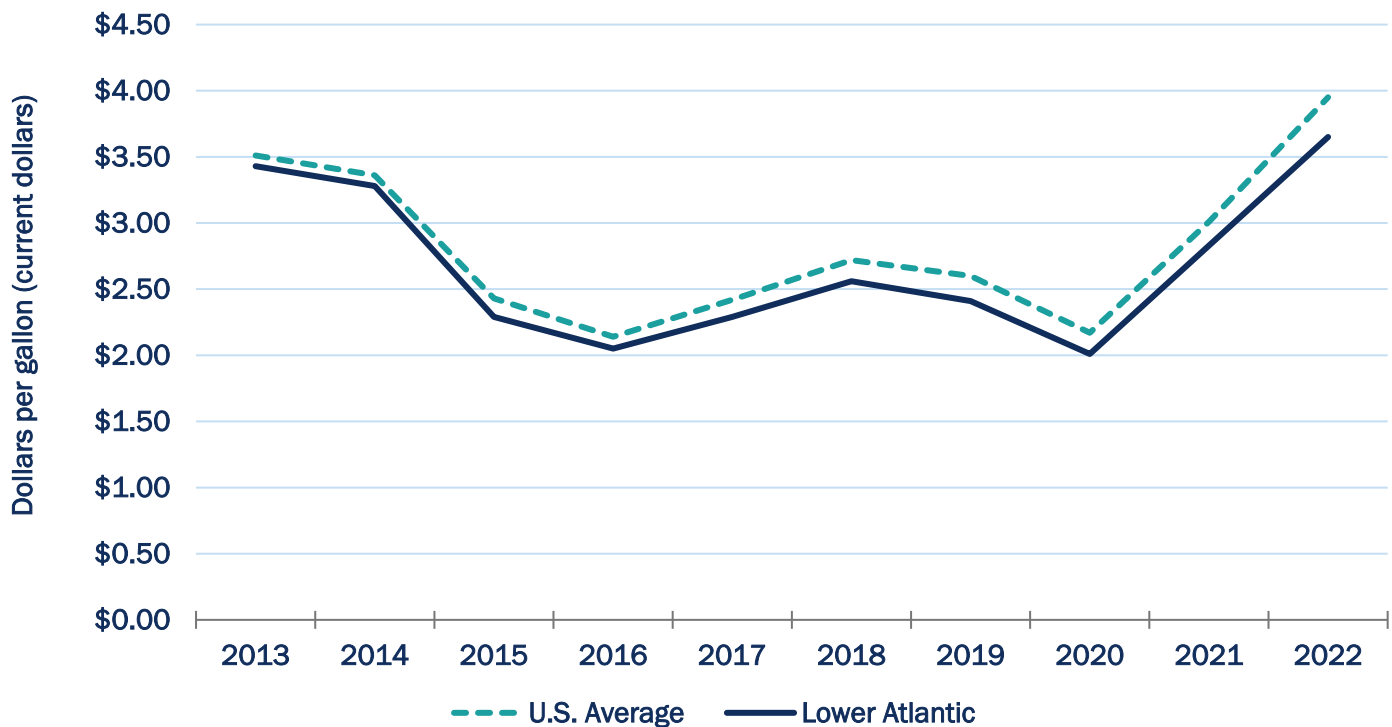
Source: U.S. Bureau of Transportation Statistics, National Highway Construction Cost Index, 2024. Seasonally adjusted.

This national trend has had significant impact in Florida, which has experienced a robust construction market in response to a strong economic recovery. The Florida Department of Transportation (FDOT) reports that average bid

prices increased 34 percent between November 2020 and July 2023.⁴⁸ This increase appears to be driven by several factors:

- **A robust construction market.** Construction employment in April 2024 was nearly 20 percent higher than the low during April 2020, and average weekly earnings for construction workers were up nearly 25 percent during the same period.⁴⁹ During much of this period, the unemployment rate for construction workers in Florida was below 4 percent, hitting a record low of 2.4 percent in December 2023 (lowest among all states).⁵⁰
- **Increasing costs of materials and fuel.** Material prices were up across the board between Q3 2021 and Q3 2023: 49 percent for asphalt, 128 percent for structural concrete, and 458 percent for earthwork.⁵¹ The average sales price of fuel also increased sharply during that period, for both the United States as a whole and the Lower Atlantic region, which comprises Florida, Georgia, South Carolina, North Carolina, Virginia, and West Virginia (Figure 8-24).⁵²

Figure 8-24 | Sales Price of Transportation Fuel to End-Users by Region



Source: U.S. Bureau of Transportation Statistics, *Cost of Transportation: Cost of Fuel*, 2022.

The total cost of a major highway capital or maintenance project also includes right of way costs—which generally are increasing with the price of land—as well as planning, project development, design and related activities. Although detailed bid and price information generally is not as comprehensive for other modes, similar upward cost pressures exist. And while the cost of operating and managing a road, transit system, trail, or other facility is not as high as the cost of initial construction or major preservation activities (such as rehabilitation of pavement

⁴⁸ Florida Department of Transportation, *Construction Cost Indicators*, September 2023.

⁴⁹ U.S. Bureau of Labor Statistics, *Current Employment Statistics*, 2024.

⁵⁰ Associated Builders and Contractors of Florida.

⁵¹ Florida Department of Transportation, *Construction Cost Indicators*, September 2023.

⁵² U.S. Bureau of Transportation Statistics, *Cost of Transportation: Cost of Fuel*, 2022.

and bridges or replacement of transit vehicles), there are ongoing costs for items such as landscaping, mowing, signage, traffic management, incident management, and safety. Many of these costs also face upward pressure from increasing wages and higher prices for fuel and materials, especially technology.

The rate of increase in transportation construction and operating costs could have a significant impact on the region’s ability to accomplish its transportation goals. If costs continue to increase, available financial resources may not cover as many projects. Already, many states and regions are reporting that construction inflation and higher bid prices have eroded much of the increase in funding through IJJA. Factors that may continue to push up construction costs include continued low unemployment rates and shortages of skilled workers, shortages and increasing competition for construction materials, and overall inflation. An economic slowdown, particularly in the housing sector, could help ease cost pressures by making more workers available for construction jobs. Changes in energy sources and prices and the potential for more supply chain disruptions could make construction costs more volatile, creating more uncertainty for transportation agencies seeking to manage their budgets.

10.2 IMPLICATIONS FOR 2050

Increasing or uncertainty transportation capital and operating costs will make future decision-making more challenging. Table 8-13 illustrates the impact the risks could have on the region’s ability to accomplish its 2050 transportation goals. A core set of risks and uncertainties could impact the region’s ability to meet all goals.

Table 8-13 | Transportation Cost Implications for 2050 MTP Goals

Goal	Implication
Safety	Higher costs could reduce the number of capital or major preservation projects that can be advanced each year or require transportation agencies to scale back some project features. Higher costs also could require more funding to be allocated to routine maintenance, operations, and management activities.
Reliability	
Connectivity	
Community	Uncertainty about future costs could make future investment prioritization decisions more challenging, requiring greater contingency in project or program budgets.
Prosperity	

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Transportation construction cost indices
- Unemployment rates for construction workers

11 State and Federal Policy and Funding

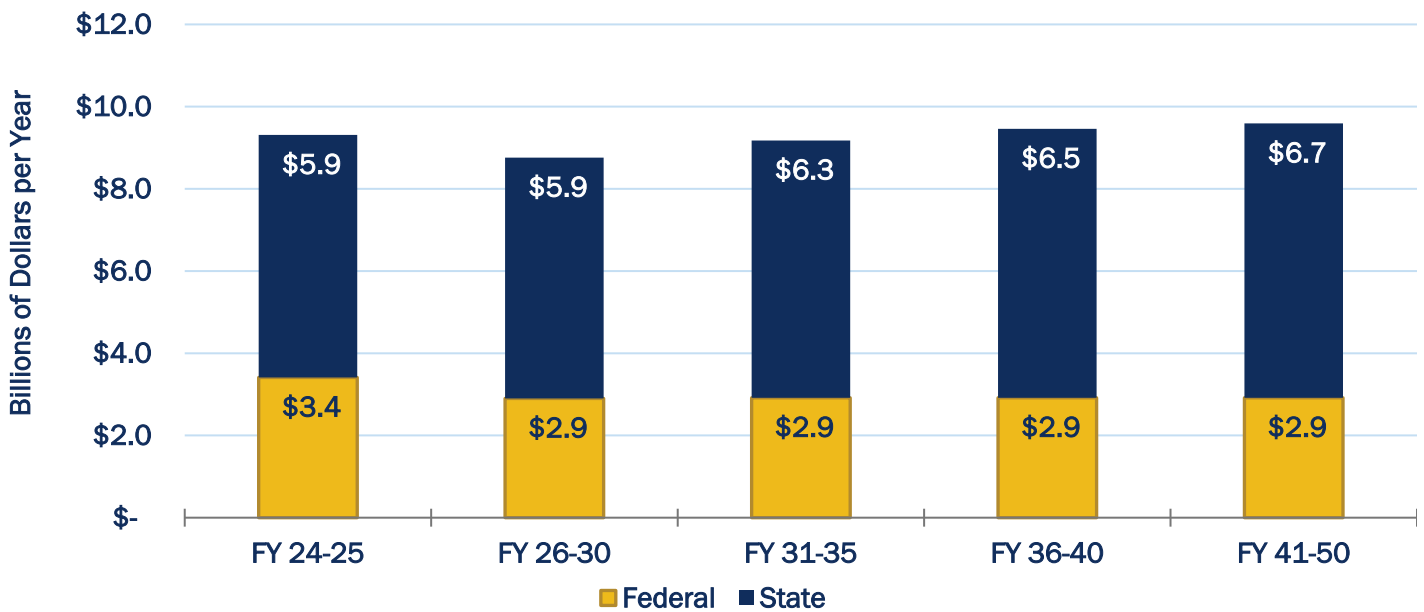
11.1 POLICIES AND FUNDING

HOW WILL OUR FUNDING OPPORTUNITIES CHANGE?

The past several years has been marked by strong state and federal commitment to investing in transportation. The Infrastructure Investment and Jobs Act (IIJA), signed into law in 2021, included a once-in-a-generation commitment to infrastructure funding nationally, including more than \$567 billion for all transportation modes between federal fiscal years 2022-2026. This included the largest federal investment in public transit ever, the largest federal investment in passenger rail since the creation of Amtrak, and the largest dedicated bridge investment since the construction of the Interstate System. At the same time, FDOT has enjoyed a string of record work programs, reflecting the strong economy and the commitment by the Governor and Legislature of an additional \$4 billion in general fund surplus to fund the “Moving Florida Forward” initiative.⁵³

FDOT’s statewide revenue forecast projects \$251 billion in federal and state funds will flow through FDOT’s work program between fiscal years 2024 and 2050 (Figure 8-25). FDOT estimates that 68 percent of these revenues will be from state sources, and 32 percent from federal sources.⁵⁴ These federal and state funds would augment revenues generated within the region by local governments and regional authorities such as LYNX and CFX.

Figure 8-25 | Projected Federal and State Revenues Flowing through FDOT Work Program



Source: Florida Department of Transportation, Florida Revenue Forecasting Handbook, June 2023.

While the revenue forecast projects a strong baseline through 2050, several factors raise concern about whether funding levels will be sustainable over the next several decades. As noted in the Transportation Costs discussion in

⁵³ <https://www.fdot.gov/movingfloridaforward/landing>

⁵⁴ Florida Department of Transportation, Florida Revenue Forecast Handbook, June 2023.

section 10, increasing construction, operations, and right of way costs are eroding the purchasing power of recent federal and state funding increases.

The primary source of federal funding for transportation is taxes on gasoline, diesel, and other fuels. The federal motor fuel tax has been held constant at 18 cents per gallon since 1993, a period during which the price of gasoline increased 226 percent.⁵⁵ Federal motor fuel tax revenues are not keeping pace with inflation and are being further eroded by increases in the fuel efficiency of vehicles and the increasing share of vehicles powered by electricity rather than motor fuels. Federal motor fuel tax revenues are projected to begin declining following fiscal year 2027.⁵⁶

Since 2001, the U.S. Congress has spent more from the Federal Highway Trust Fund (HTF) than revenue collected. Since 2008, Congress has transferred \$275 billion into the HTF, mostly from the General Fund of the Treasury. The IIJA is the latest transportation law to draw on General Fund revenues, with \$118 billion transferred into the HTF. The Congressional Budget Office (CBO) projects that HTF balances will be exhausted by FY2028 and that more than \$140 billion above current tax and fee revenues would be needed to pay for highway and transit programs (at current funding levels) in a new five-year transportation bill following IIJA (Table 8-14).⁵⁶ However, with the growing federal budget deficit and increasing share of the federal budget allocated to mandatory outlays (including Social Security and major health care programs) and interest, it may be difficult to continue to rely on General Fund transfers for transportation purposes.

Table 8-14 | Highway Trust Fund Accounts (Billions of Dollars)

Account	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Highway Account Revenues	42.0	42.9	41.4	40.1	38.9	37.9	37.3	36.8	36.3	35.8	35.4	35.1
Outlays	50.2	52.6	55.9	59.0	61.4	63.6	65.2	66.4	67.7	69.1	70.4	71.8
End of Year Balance	89.6	78.7	63.0	42.8	19.1	a	a	a	a	a	a	a
Transit Account Revenues	6.3	6.7	6.2	5.7	5.3	4.9	4.8	4.6	4.5	4.4	4.2	4.1
Outlays	10.0	11.8	13.3	14.3	15.3	16.0	16.4	16.7	16.6	16.8	16.7	17.0
End of Year Balance	31.9	28.1	22.2	14.8	6.0	a	a	a	a	a	a	a

Source: Congressional Budget Office, *Baseline Projections, February 2024*.⁵⁷

Florida’s state motor fuel tax is indexed to inflation, and the state also draws on a more diverse set of revenues for transportation, including license-related fees, rental car surcharges, documentary stamp fees, and tolling. This provides a stronger foundation for statewide revenues, although the same challenges of rising costs, increasing fuel efficiency, and the growing adoption of electric and alternative-fuel vehicles remain.

In addition to the funding outlook, other federal and state policy changes could impact transportation investment priorities and requirements in future years. Recent federal surface transportation legislation has required state DOTs and MPOs to establish and work toward targets for a range of performance measures addressing goals such

⁵⁵ U.S. Energy Information Administration, 2024.

⁵⁶ Congressional Budget Office, *Baseline Projections, February 2024*.

⁵⁷ a. Under current law, the Highway Trust Fund cannot incur negative balances. However, following the rules governing baseline projections in the Balanced Budget and Emergency Deficit Control Act of 1985, CBO’s baseline for surface transportation spending reflects the assumption that obligations presented to the Highway Trust Fund will be paid in full.

as safety, asset condition, and system performance. These laws also expanded the range of planning factors MPOs must address to include new topics such as resilience and reliability, travel and tourism, and housing. The IJA includes 13 existing and 21 new transportation-related competitive grant programs totaling \$187 billion in potential funding, with some of the funds directly awarded to local governments. IJA expires in 2026, and there could be multiple surface transportation authorizations between 2026 and 2050.

At the state level, transportation policy is set in Florida Statutes. The Florida Transportation Plan is the statewide transportation plan for all of Florida, under both federal and state law. The most recent FTP, completed in 2020, reaffirmed Florida’s primary commitment to safety; broadened the state’s definition of transportation infrastructure to include supporting technologies; expanded the focus beyond maintaining infrastructure in good condition to future-proofing infrastructure against existing and emerging risks; and expanded the emphasis from improving efficiency of the system to enhancing mobility for people and freight and accessibility for all Floridians. Prior FTPs led to major changes in state programs, including creation of the Strategic Intermodal System (SIS). Florida Statute requires FDOT to update the FTP at least once every five years. The FTP will be updated in 2025 and then multiple times through 2050.

11.2 IMPLICATIONS FOR 2050

Federal and state transportation policies and funding provide an important framework for the MTP. Table 8-15 illustrates the impact the risks could have on the region’s ability to accomplish its 2050 transportation goals. A core set of risks and uncertainties could impact the region’s ability to meet all goals.

Table 8-15 | Policy and Funding Implications for 2050 MTP Goals

Goal	Implication
Safety	The potential for a long-term decline in federal motor vehicle tax revenues, potential drawdown of the Federal Highway Trust Fund balance, and increasing reliance on discretionary grant funding programs creates uncertainty about future federal revenues for transportation.
Reliability	
Connectivity	Long-term state revenues also could be impacted by increasing fuel efficiency of vehicles and increasing use of electric or alternative fueled vehicles.
Community	
Prosperity	Potential shifts in federal or state policy could impact requirements and expectations for MPOs.

SIGNPOSTS FOR THE FUTURE: KEY INDICATORS TO WATCH

- Federal Highway Trust Fund balance
- Changes in federal or state transportation policy and programs



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