

Welcome!

Future Technology & Trends
July 24, 2025



Today's webinar will begin shortly.



Journey to 2050

Future Technology & Trends

July 24, 2025



Our host and presenters



Leilani Vaiaoga
Communications
Specialist
Host



Taylor Laurent, PE, AICP
Manager, Transportation Planning
2050 MTP Project Manager
Presenter



Slade Downs, AICP
Transportation Planner
Presenter



Eric Hill
Director, TSM&O
Presenter



Who is MetroPlan Orlando?

- We **lead** transportation planning efforts in Orange, Osceola, and Seminole counties.
- We **bring together** local leaders.
- We **prioritize** federal and state transportation dollars.

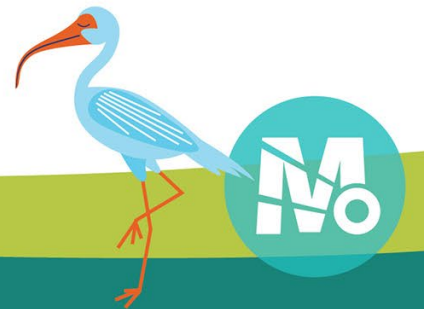


What is the 2050 MTP?



Presentation Overview

- Existing Conditions & Area Profile
- Drivers of Change
- Role of new Technology
- Q&A

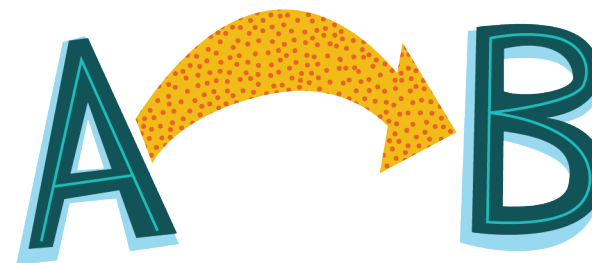


Trend

noun

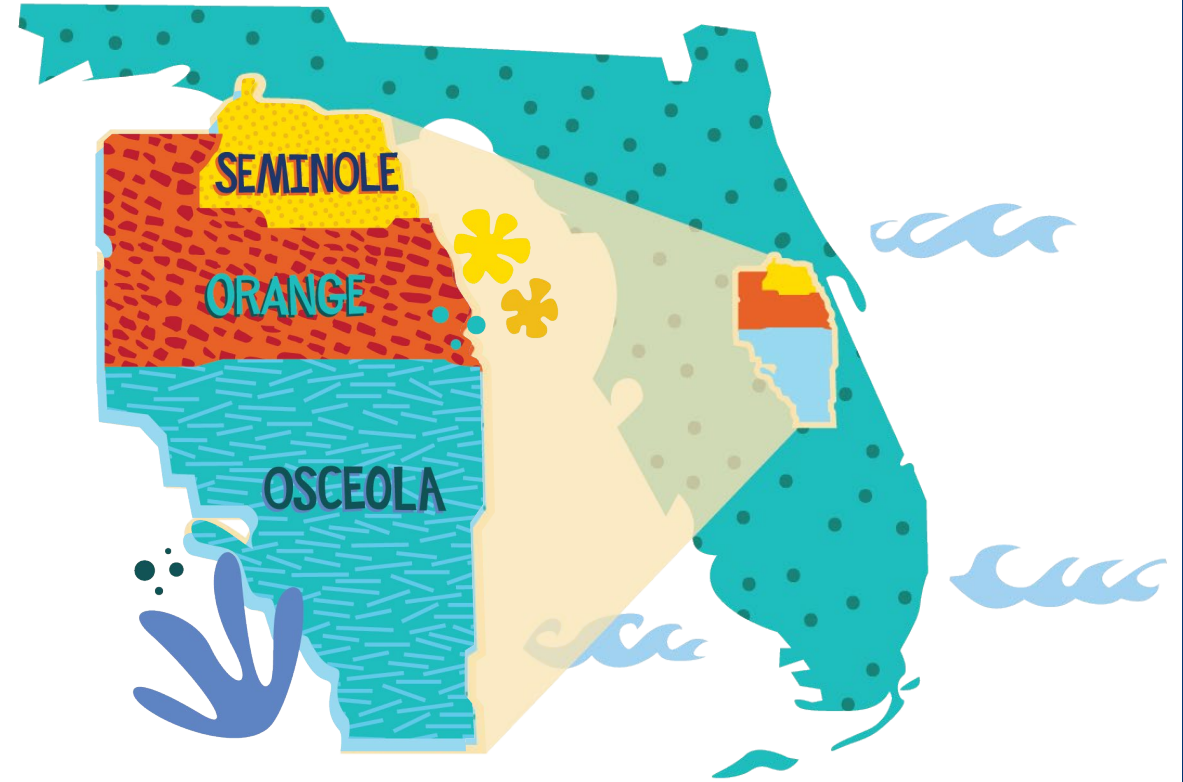
1. A general direction in which something is developing or changing.

To understand where we are going, we need to start by understanding where we are today.



Central Florida: Existing Conditions

Slade Downs, MetroPlan Orlando



Growth in the Region

- Our population continues to rise
 - More users across our transportation system
- Our workforce and job numbers are also climbing
 - More commuters on the road at the busiest times of day
 - Homes and jobs can be far apart

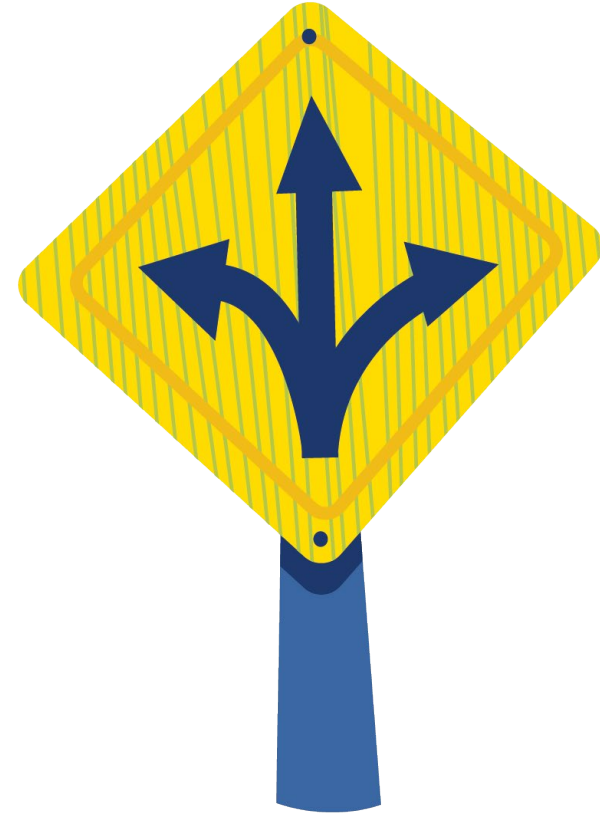


*Source: US Census, ACS,
Bureau of Economic Analysis*



How, and Where, We Have Grown

- Our urban footprint continues to expand
- Growth near expressways and limited access facilities

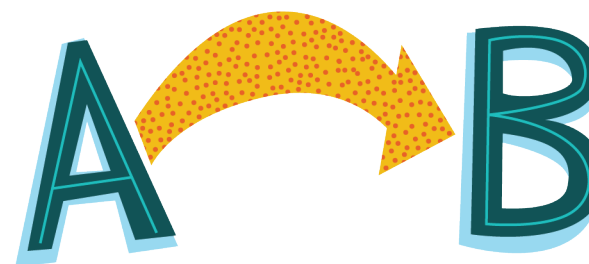


Source: ACS, US Census



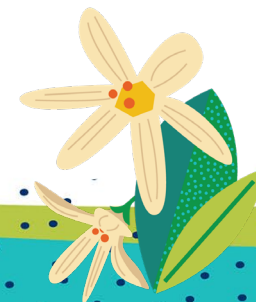
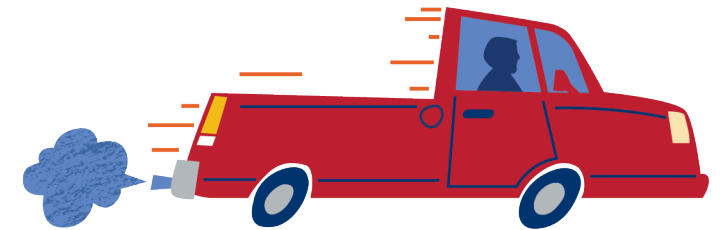
What does this look like on our roads?

- The average number of miles we drive is increasing.
- This number decreased during social distancing but is again on the rise.



Growing Safety & Environmental Concerns

- Safety Concerns
 - There is a rise in crashes on our roads
 - The number of fatalities is also increasing
- Environmental Concerns
 - Increased vehicles = increased pollution
 - Even electric vehicles add to congestion



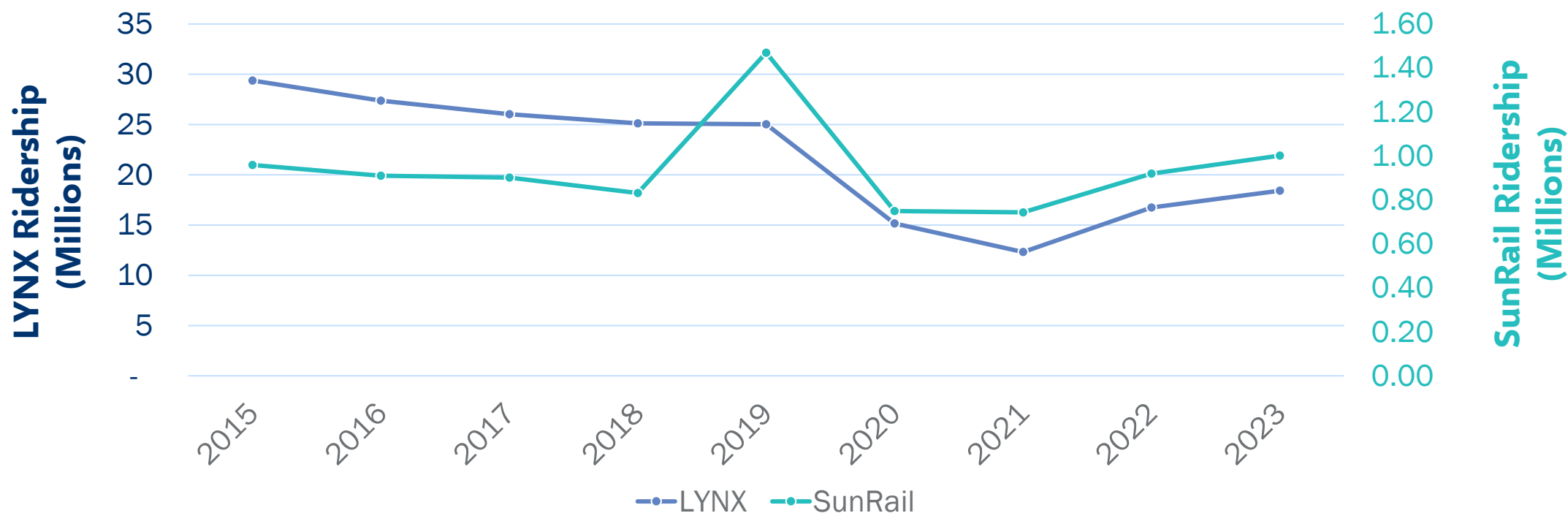
Shifting Reliability and Performance

- Travel Delay = The extra time it takes to arrive at your destination due to traffic or incidents on the road.
- Travel delay has remained pretty even.



Growth and Transit

Transit ridership recovering from COVID-19



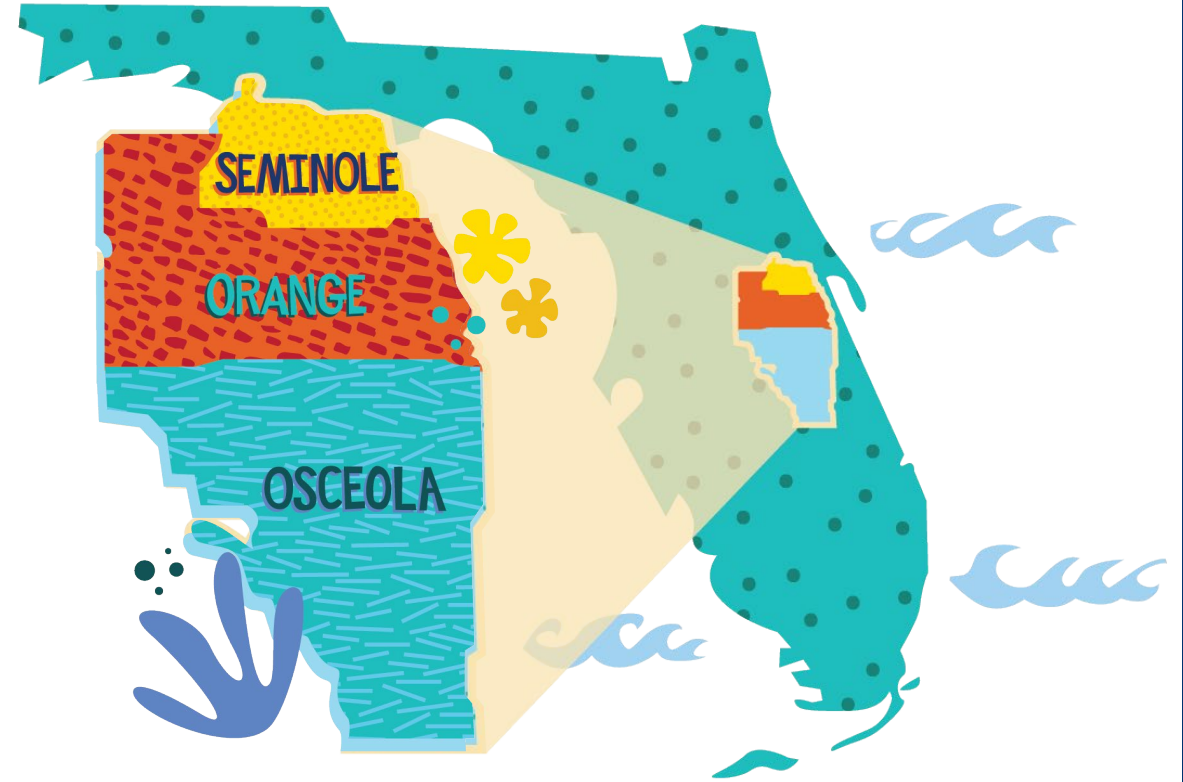
Economic Growth

- Tourism is Growing
 - Over 70M visitors in 2023
- Freight Keeps Industry Moving
 - 134M Tons of Freight in 2023



Drivers of Change

Taylor Laurent, MetroPlan Orlando



Drivers of Change

What are drivers of change?

Trends, changes, and disruptions that could impact our demand for and supply of transportation

Why do they matter?

Encourage positive impacts
Mitigate negative impacts

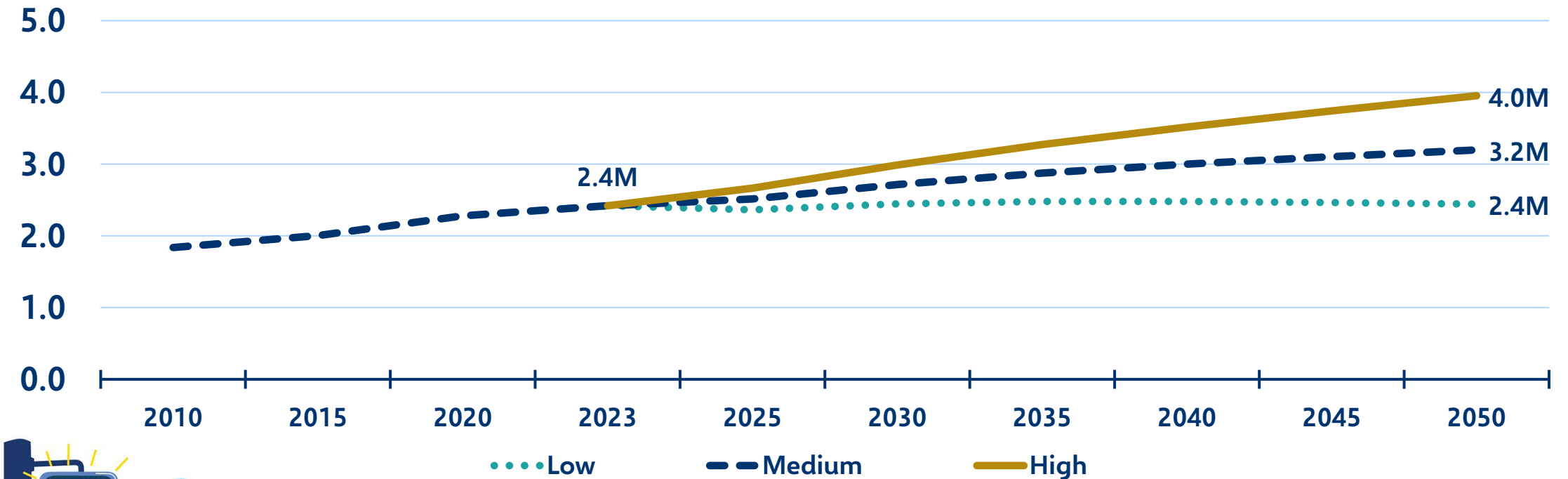


Driver: Demographics

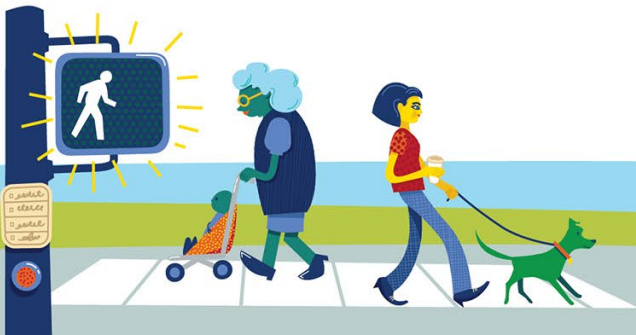
Will We Continue to Grow?

MPO Planning Area Population Growth and Projections (2010-2050)

Population (in Millions)



Source: University of Florida, Bureau of Business & Economic Research, 2024
All data are for Orange, Osceola, and Seminole Counties.



What Is Driving Growth?

Regional Population Change, 2020-2023



BIRTHS

+82,325

PEOPLE MOVING
FROM OTHER STATES

+21,395

DEATHS

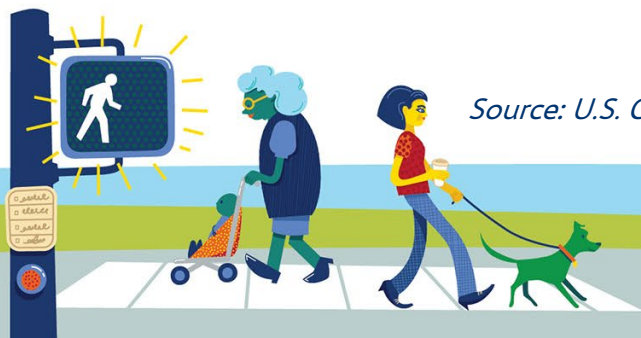
-57,071

PEOPLE MOVING
FROM OTHER COUNTRIES

+56,298

Population change in Orange, Osceola, and Seminole Counties, 2020-2023.

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



How Does Health & Wellness Intersect with Transportation?



67.2% of adults are overweight or obese

35.6% of adults have one or more disabilities

11.9% of adults are struggling with mental health

More people who **need assistance** driving, riding, cycling, or walking?

More frequent trips to health care providers? **Longer trips** to specialists?

Do we have **easy access to fresh food**?

Is our **air and water clean**?

Can people **walk, bike, and roll safely**?

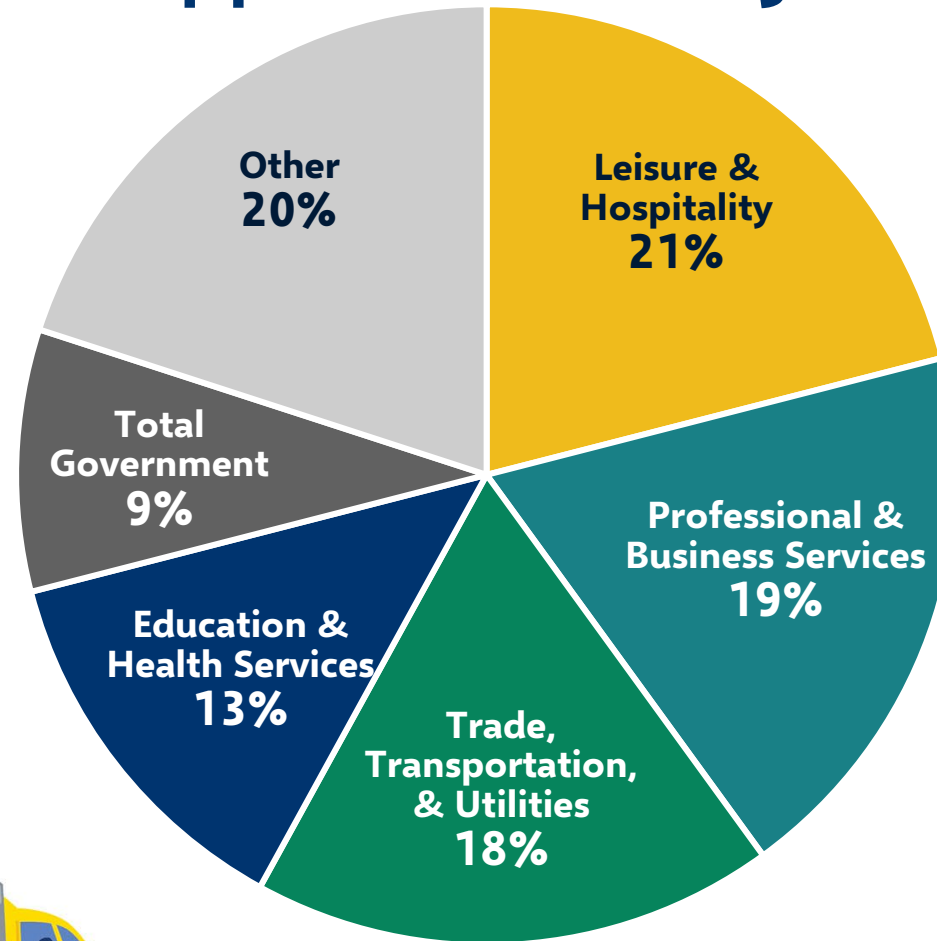


Mo



Driver: Economy

What Industries Support the Most Jobs Today?



Central Florida Employment by Industry (2023)

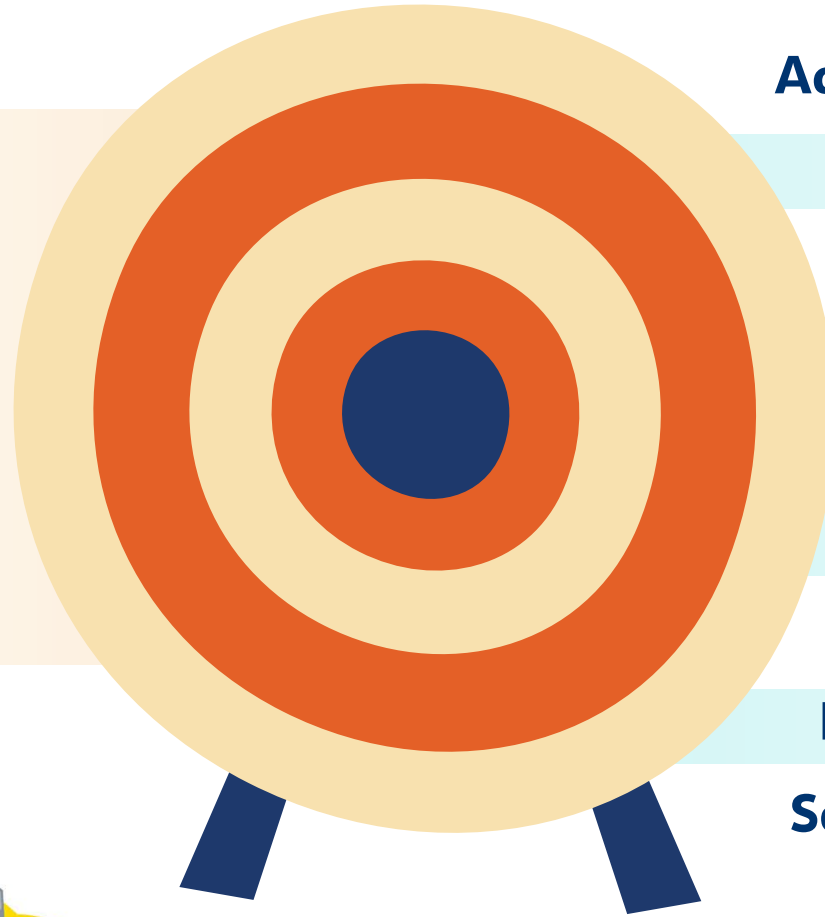
Source: U.S. Bureau of Labor Statistics,
Quarterly Census of Employment and Wages,
2023 (Annual Average—for Orange, Osceola,
and Seminole Counties).



Which Industries Will Drive Future Growth?

Targeted Industry Sectors

New and growing industries may require additional transportation connectivity



Advanced Manufacturing

Aerospace & Defense

Business Services

Clean Technology

Headquarters & Regional Offices

Innovative Technology

Life Sciences & Health Care

Logistics & Distribution

Semiconductors

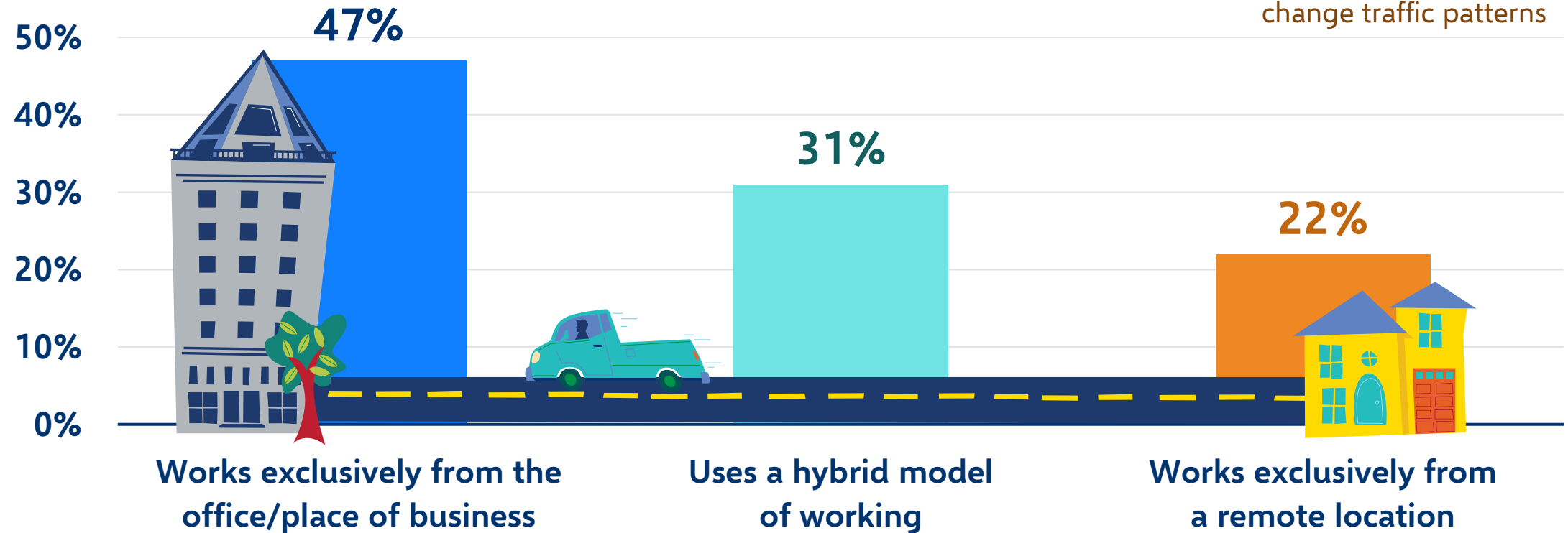
Source: Orlando Economic Partnership



How Will We Work?

Percentage of Workforce by Work Location

Changing workforce locations could spread trips throughout the day and change traffic patterns



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



How Are Supply Chains Changing?

E-Commerce as a Share of U.S Retail Sales

Percentage of Retail Sales



Source: U.S. Census Bureau, 2023.



How Much More Could Visitor Activity Grow?

Total Annual Visitor Volume



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



Driver: Development

Where Will Future Development Occur?

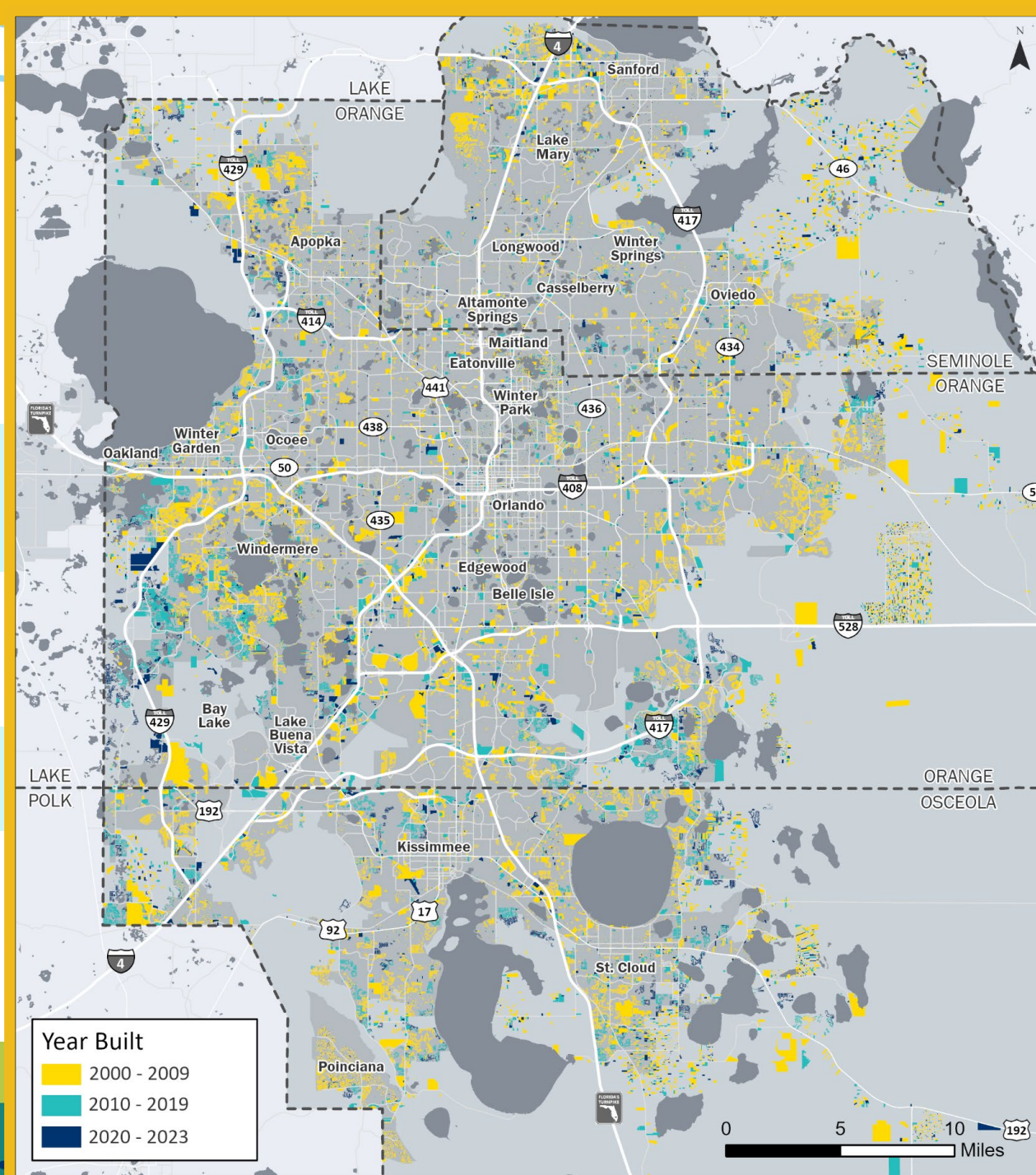
Similar places as the last few decades?

More redevelopment/infill in existing urban areas?

More growth in smaller towns and rural areas?

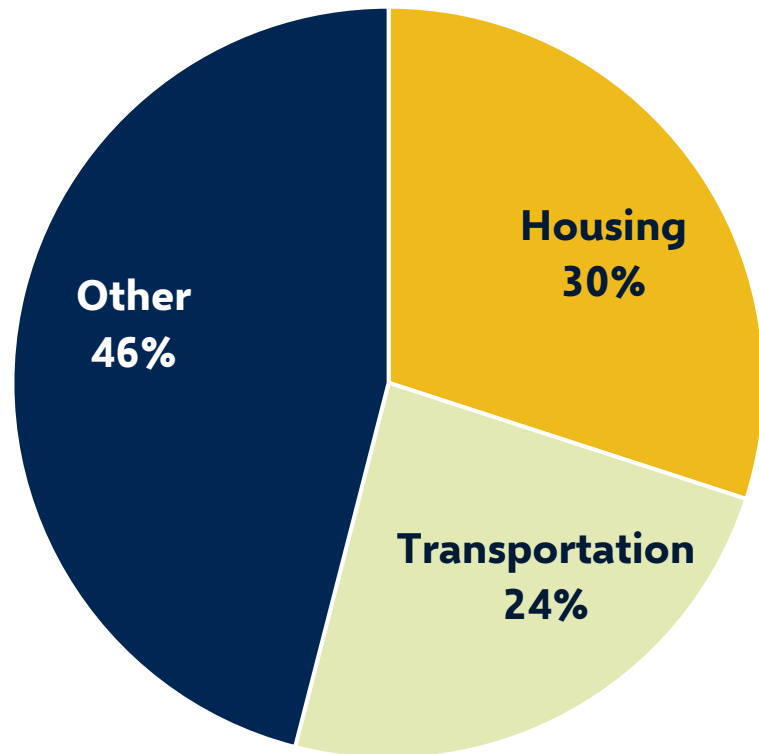
Significant new centers?

Source: County Parcel Files, 2024
Color represents year of project completion



How Will the Cost of Living Change?

Household Spending



On average, households in the MPO area spend **MORE THAN ½ OF HOUSEHOLD INCOME ON HOUSING & TRANSPORTATION**

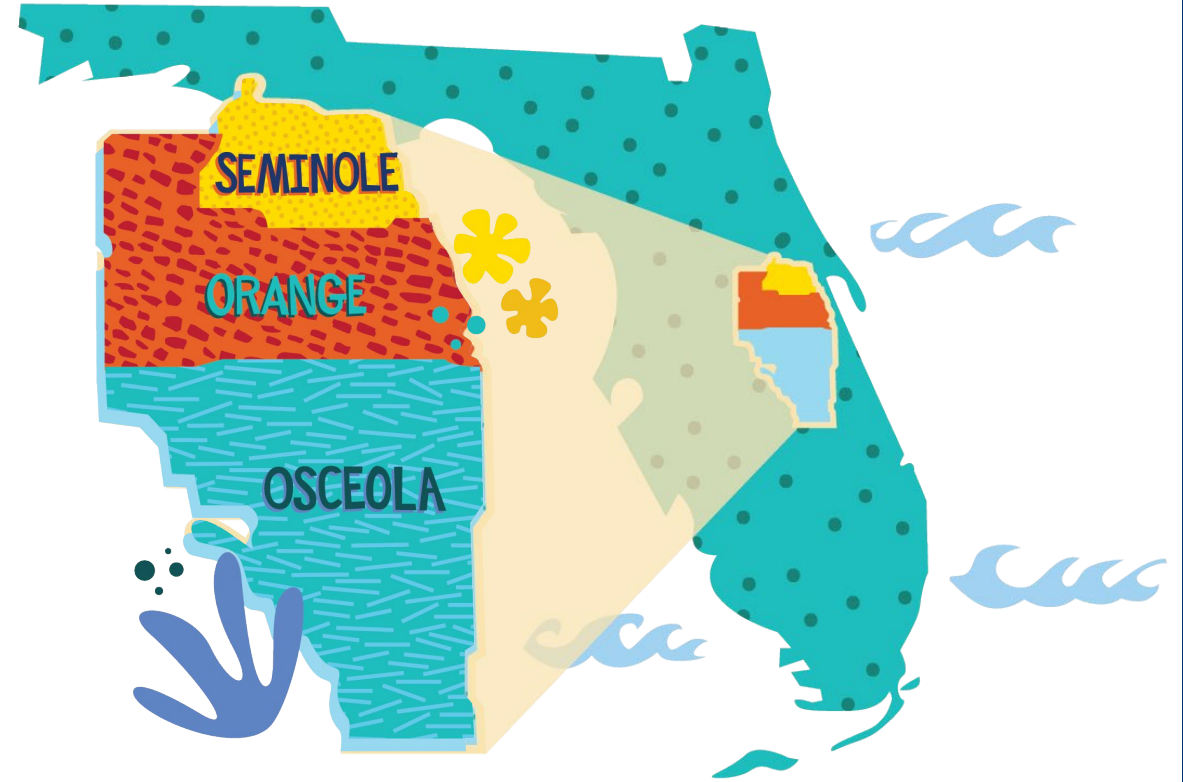


Source: Center for Neighborhood Technology, H+T Index, 2024.



Technology and Other Drivers of Change

Eric Hill, MetroPlan Orlando



Driver: Technology

What Technologies Are Changing?



AUTOMATED



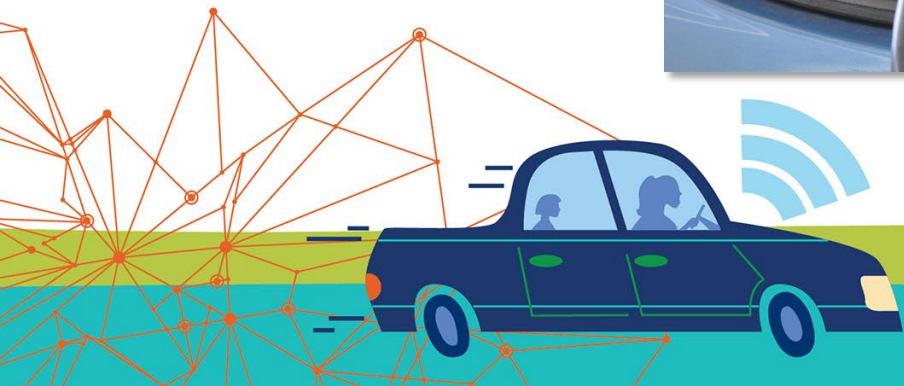
CONNECTED



ELECTRIC



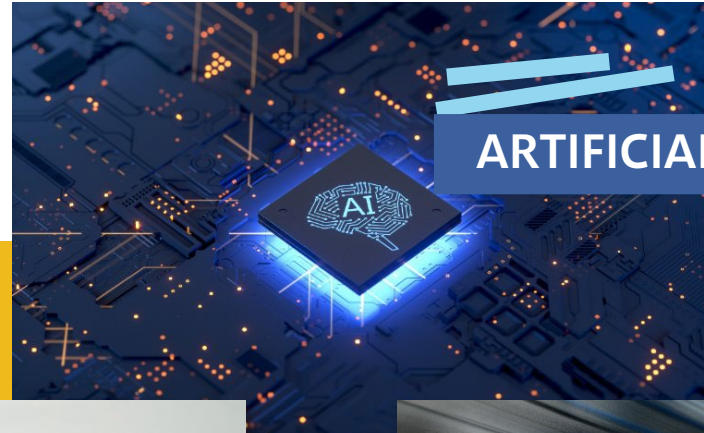
SHARED



What Technologies Are Changing?



DRONE DELIVERY



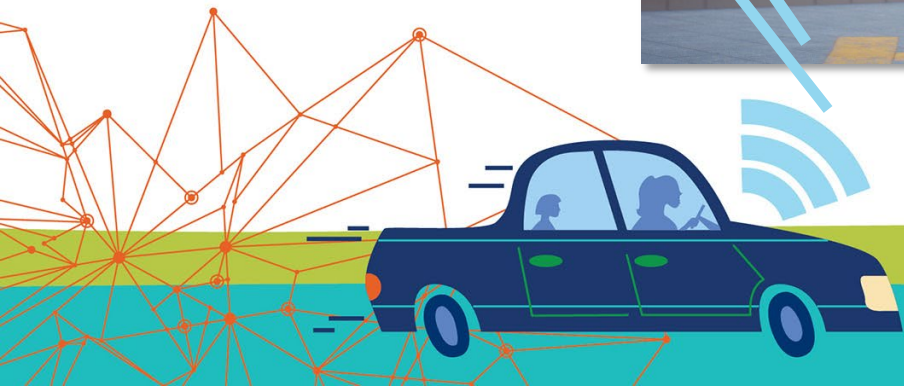
ARTIFICIAL INTELLIGENCE



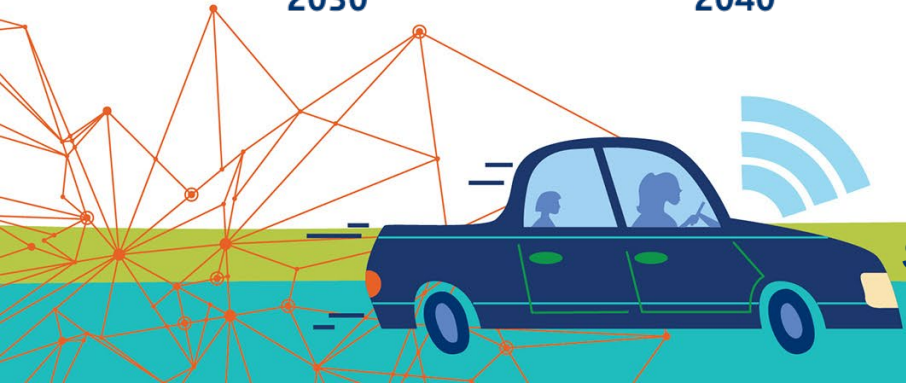
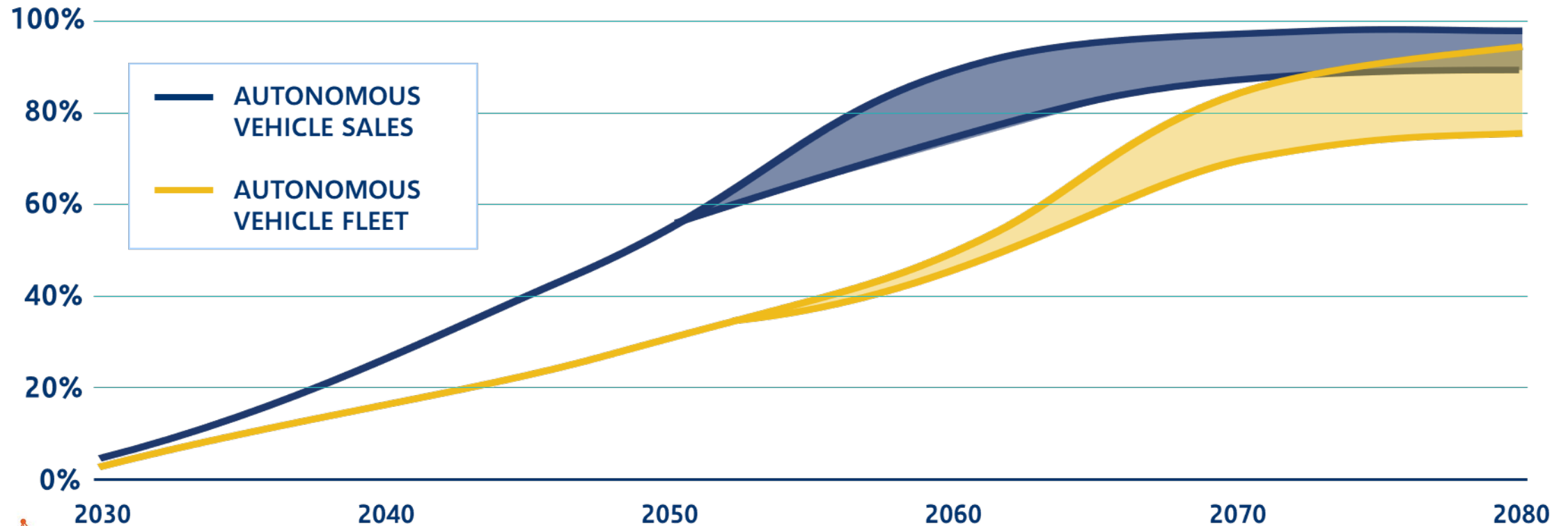
AIR MOBILITY



HIGHER-SPEED RAIL



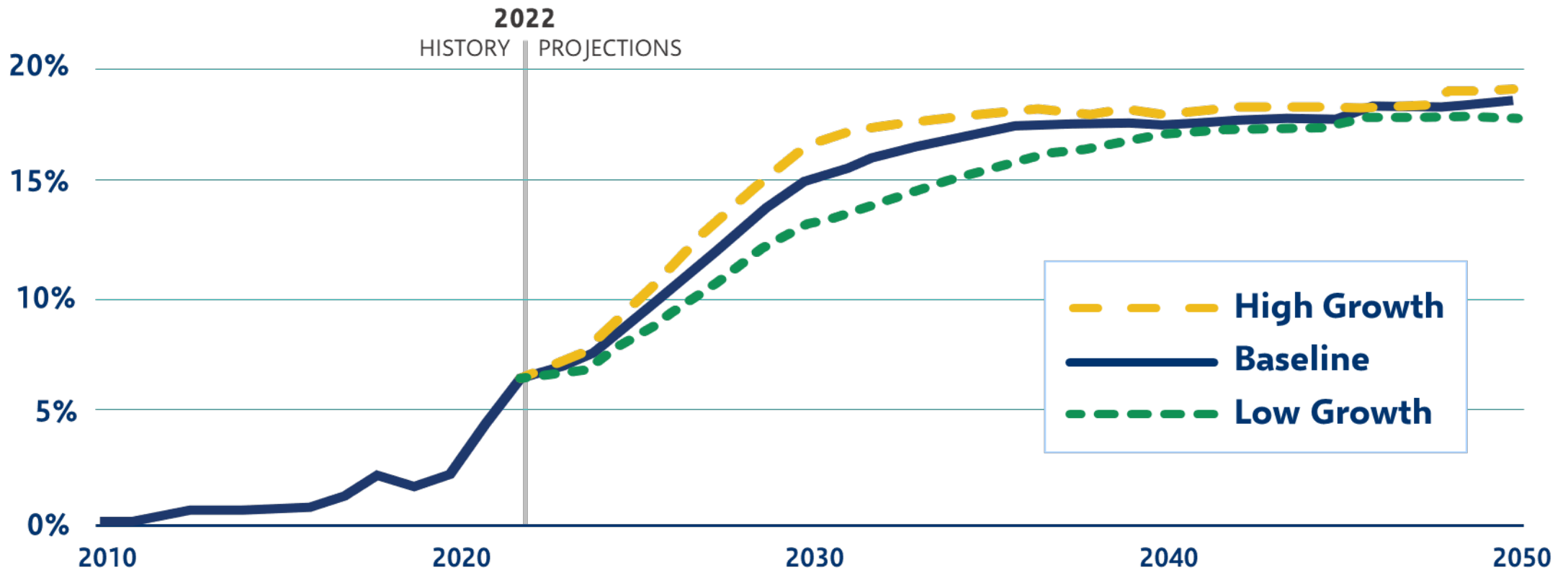
How Quickly Will Technology Change?



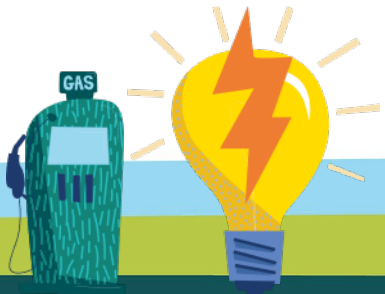
Source: Victoria Transportation Policy Institute



How Much Will Electric Vehicle Sales Grow?



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

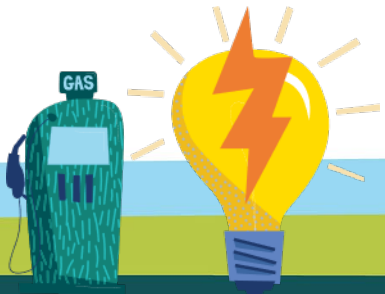


How Can Central Florida Prepare?

Expand electric vehicle charging network and alternative fuels infrastructure

Convert public fleets to electric vehicles/alternative fuels

Use transportation ROW to generate and transmit energy



Driver: Transportation Costs

Will Transportation Costs Continue to Rise?

The National Construction Cost Index increased 50% (End 2020 – Q3 2023)

Florida average weekly earnings in construction +23% (9/20-9/24)

Average Florida Retail gasoline costs +47% (9/20-9/24)

Other increasing costs: Concrete (128%), Asphalt (49%), Earthwork (458%) (Q3 2021-Q3 2023)



Sources: U.S. Bureau of Transportation Statistics, National Highway Construction Cost Index, 2024. Seasonally adjusted, U.S. Bureau of Labor Statistics, Average Weekly Earnings of All Employees;

U.S. Energy Information Administration, Florida Department of Transportation, Construction Cost Indicators, September 2023

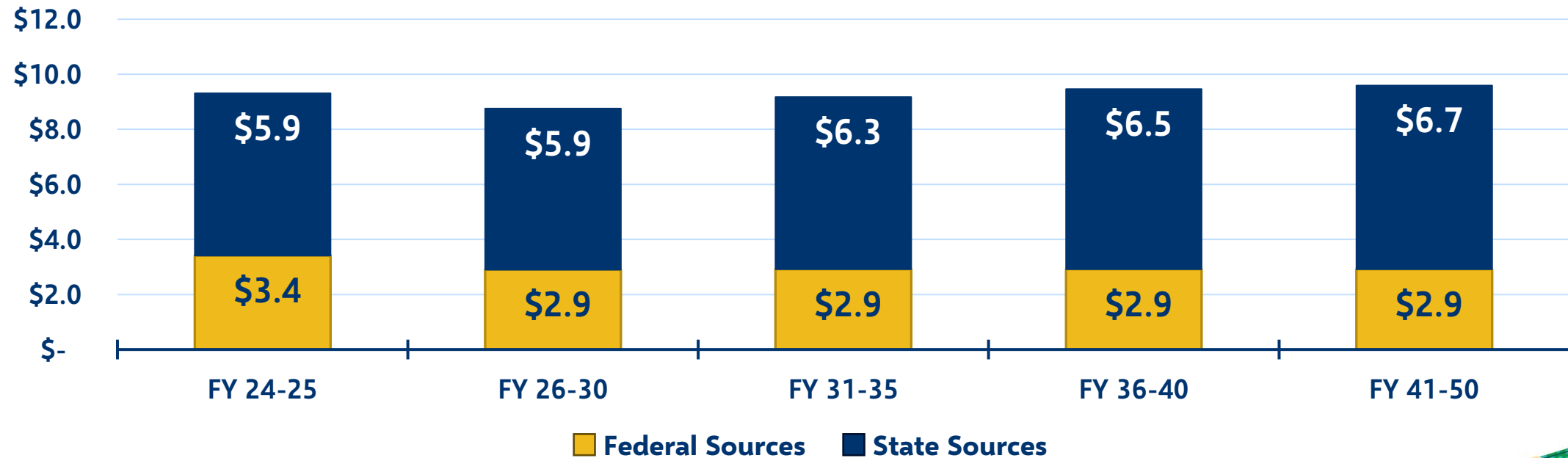


Driver: State and Federal Funding and Policy

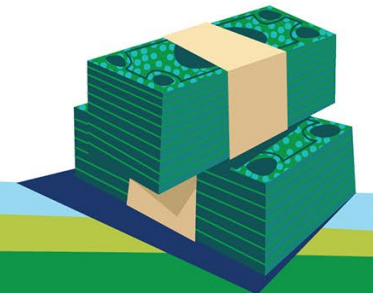
How Will Our Funding Opportunities Change?

Projected Statewide Revenues Flowing through FDOT Work Program

Billions of Dollars per Year



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



What Funding Risks Might We Face?

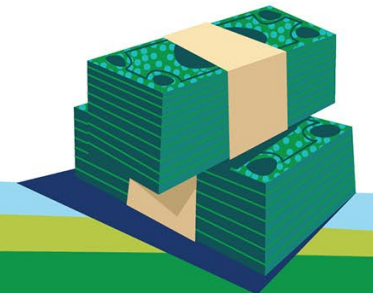
Decline in value of MOTOR FUEL TAX

Sustainability of FEDERAL HIGHWAY TRUST FUND

Future of FEDERAL DISCRETIONARY GRANT programs

Reauthorization of FEDERAL TRANSPORTATION BILL

Potential changes to STATE LAWS AND POLICIES



How the Drivers Impact the 2050 MTP



Guide goals and objectives

Inform strategies

Provide context for investment decisions





Q&A



Upcoming Webinars

August 21, 2025 | Community & Environment

September 11, 2025 | Multimodal Transportation Needs

Join our Email List at MetroPlanOrlando.gov





Thank you for attending

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