

# Public Transportation Recommendations

Providing Regional Mobility Options



LONG-RANGE TRANSPORTATION PLAN

## What We Know

Transit in the GPATS region is currently provided by two independent service providers – Greenlink and Clemson Area Transit (CAT). Because each service provider operates and plans improvements independently, the *Horizon 2040* transit recommendations look to provide policy and program guidance, as well as regional system improvement recommendations as a long-term guide, while looking to the transit providers' detailed planning efforts to carry forward the regional transit vision.



- Twelve routes, operating on a hub-and-spoke system from the Downtown Transit Center
- Serves Greenville, Mauldin, Simpsonville, and outlying areas
- 623 stops, 60 minute headways
- Operate approximately 5:30 a.m. to 7:30 p.m. Monday through Friday, and until 6:30 p.m. Saturday



- Eight routes
- Serves Clemson, Pendleson, Seneca
- Operates 7 a.m. to 3 a.m., depending on academic schedule
- Country's first all-electric bus system

## What We Heard

Local residents, business owners, and local officials provided input at many points throughout the planning process. This constant engagement helped to guide the development of the recommendations and to further the project team's understanding of the existing transit system. Some of these comments and findings include:

### Challenges

- Investing in transit requires a change in culture and the overall local attitude toward transit
- Current service hours don't meet the needs of the population or employers
- Many communities in the region still have no transit services
- Growth in the outlying areas and urban sprawl has created a challenging environment to serve

### Opportunities

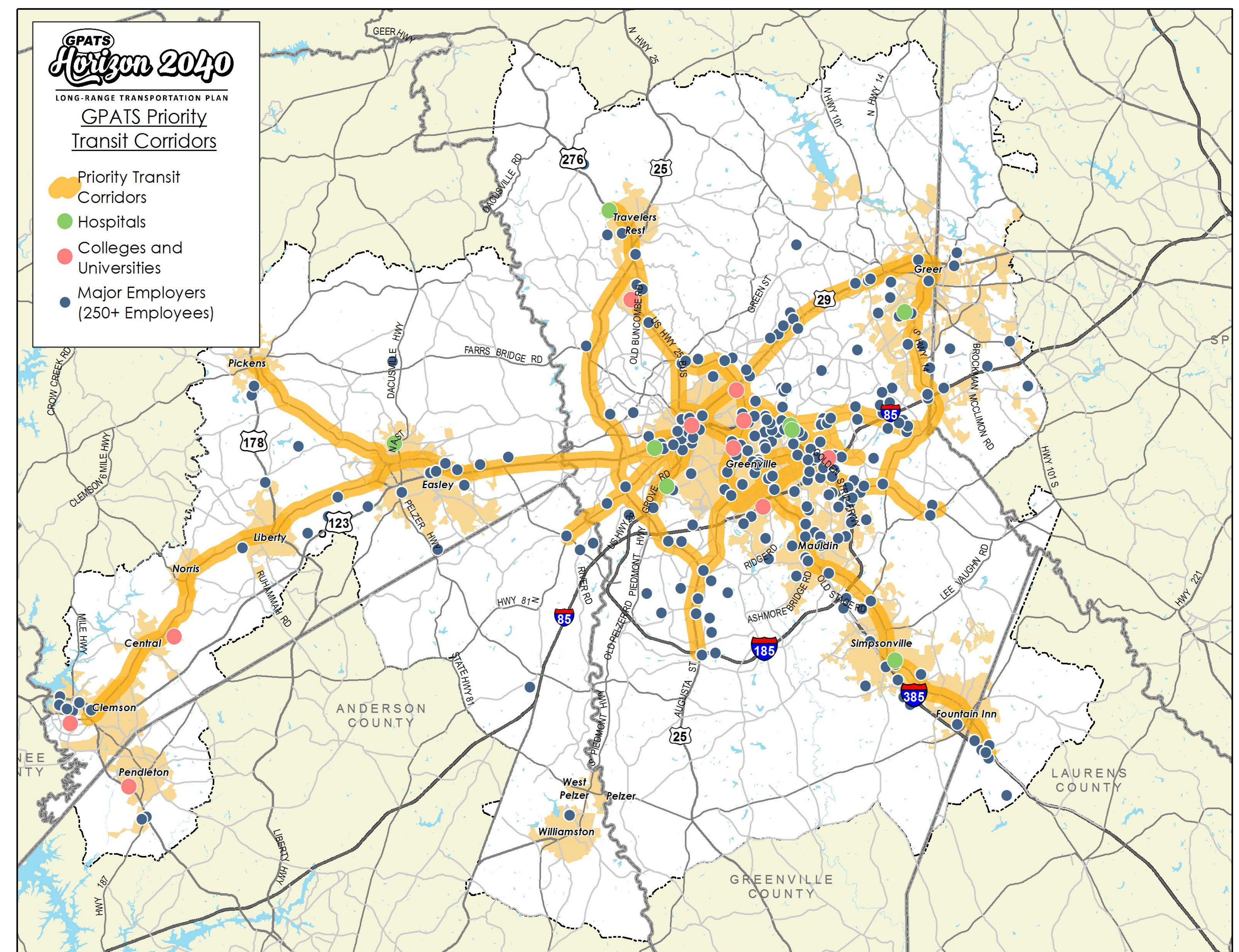
- Increasing density in the region's urban areas will eventually support better transit service
- Basic changes provide ways to make big improvements in service: short headways, smaller vehicles, app tracking, etc.
- Changing demographics show a real need for investment in quality transit services

## Recommendations

### Policy Recommendations

- Seek to expand service to connect more communities within the metro region
- Provide extended service hours that better serve the needs of employers and employees.
- Prioritize service to populations that depend on transit as their primary means of mobility and to high growth corridors as a means of traffic mitigation.

The map below depicts priority transit corridors that link major employment centers, medical services, educational centers, and serve the needs of the area's transit-dependent populations.





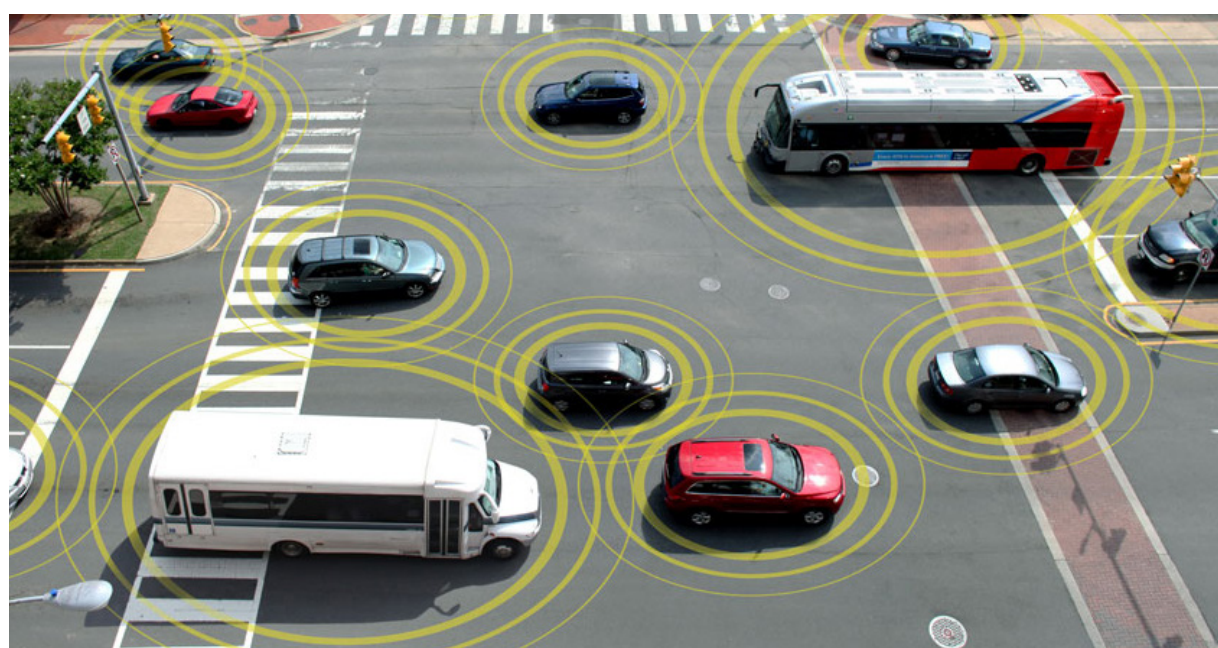
# Advanced and Emerging Technologies

Planning for tomorrow's transportation

## A Changing World

The field of transportation technology is changing at a greater rate today than perhaps any other time since the invention of the automobile. Advances in transportation technology are likely to change everything about our travel experience, including how we travel, how the things we buy are transported, and whether or not we even own a vehicle. Advancing transportation technologies may take the shape of enhancements to existing travel modes such as automobiles and transit vehicles, or may include emerging travel modes, such as personal rapid transit and high speed rail. A range of emerging transportation technologies are identified in the information below. GPATS will continue to stay at the forefront of these and other transportation technologies through its planning efforts. To assist with this process, GPATS will seek to identify and capitalize on funding that may become available in the future to expand on these emerging trends, whether through public funding sources or private and commercially-driven initiatives.

### Connected and Autonomous Vehicles



Connected and autonomous vehicles communicate with their environment and with other vehicles, improving safety, traffic flow, and diminishing the need for a human behind the wheel.

### Personal Rapid Transit



Personal Rapid Transit is a network of small vehicles that operate on a system of designated rails or roadways. These vehicles carry a few people at a time and allows for non-stop travel.

### Shared Ride Services



Services such as Uber and Lyft are popular in urban areas across the country. They allow people to easily schedule a ride using a mobility application, diminishing the need to own a vehicle or to park in busy areas.

### High Speed Rail



Plans for a Southeast High Speed Rail Corridor that links Atlanta and Charlotte may one day include a stop near Greenville. This would improve mobility options for long-range travel and enhance the Upstate's economic connections throughout the Southeast.

### Hyperloop



Currently in development as an experimental transportation method, the Hyperloop connects two destinations with a sealed tube that transports passenger pods at high speeds. A hyperloop network would connect regional destinations similar to a rail network.

### Delivery Drones



Parcel delivery drones, currently in experimental use by some companies, deliver packages directly to their destination without the need for a delivery truck.

### Parcel Delivery E-Bikes

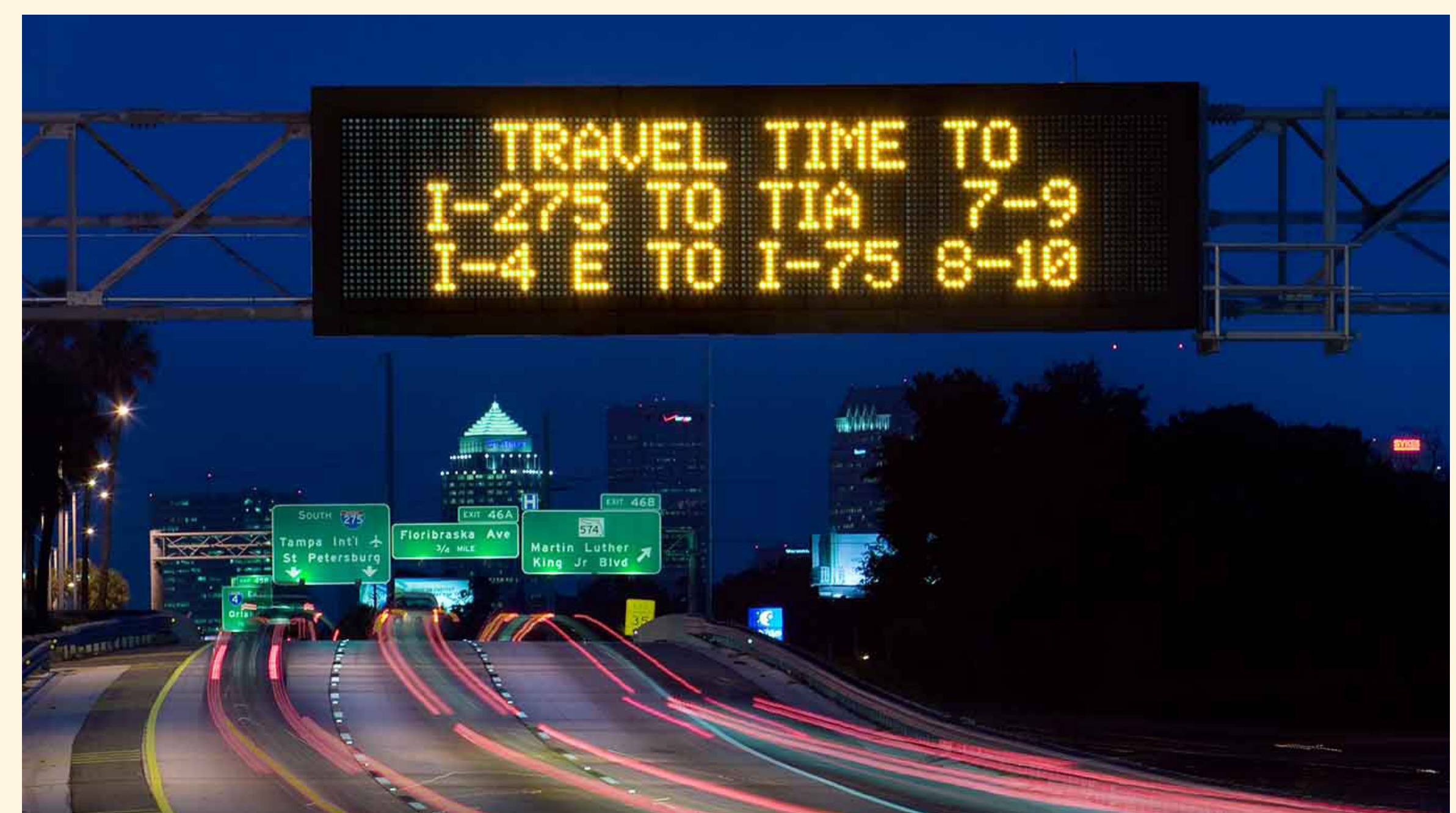


UPS and other delivery companies have been experimenting with performing deliveries in urban areas on electric bicycles in order to reduce their use of heavy trucks in urban centers.

## What about Intelligent Transportation Systems?

Intelligent Transportation Systems (ITS) describes various technologies that provide numerous benefits when implemented as part of an overall transportation management strategy. ITS is one way transportation planners manage traffic flow to limit congestion from normal and unexpected delays, reduce crashes, and minimize fuel consumption and emissions. While some people may not be familiar with the term, they should be familiar with the many ITS applications they use or experience each day. These applications include dynamic message signs along highways, coordinated traffic signals, video cameras and special sensors to monitor traffic, and ways to give emergency and transit vehicles priority to proceed safely through signalized intersections.

ITS is an important part of a comprehensive transportation management strategy, and the GPATS region should continue to leverage its existing ITS resources and improve upon its capabilities as technology advances.





# Performance Measures

Using data to gauge our region's progress



## What are Performance Measures?

Performance Measures are a new form of goal-oriented transportation planning adopted by SCDOT and the Federal Highway Administration. While previously the state and local MPOs have tracked certain data points to understand local trends, the adoption of performance measures requires MPOs to set targets to work toward improving the performance of the regional transportation system.

### Leading with Safety

The first performance measures adopted by SCDOT set regional performance goals based on a series of safety targets. These measures are shown at right, along with GPATS baseline performance on each of those measures over the last four years.

GPATS must adopt goals for the region's future performance on each of these measures by February 27, 2018.

Performance Measure	GPATS Target Baseline (2012-2016 Average)
<b>Number of Fatalities</b>	<b>92.20</b>
<b>Fatality Rate per 100 million vehicle miles traveled</b>	<b>1.77</b>
<b>Number of series injuries</b>	<b>325.40</b>
<b>Rate of serious injuries per 100 million vehicle miles traveled</b>	<b>6.33</b>
<b>Number of non-motorized fatalities and serious injuries</b>	<b>42.20</b>

## Still to Come

Safety is the first required performance goal, but other measures will follow. In the future, MPOs and the State Department of Transportation will be required to track the transportation system's performance against a whole host of performance criteria. These will likely include:

Highway Pavement Conditions

Freight

Bridge Conditions

Air Quality

Congestion

Development of Asset Management Plan

System Reliability