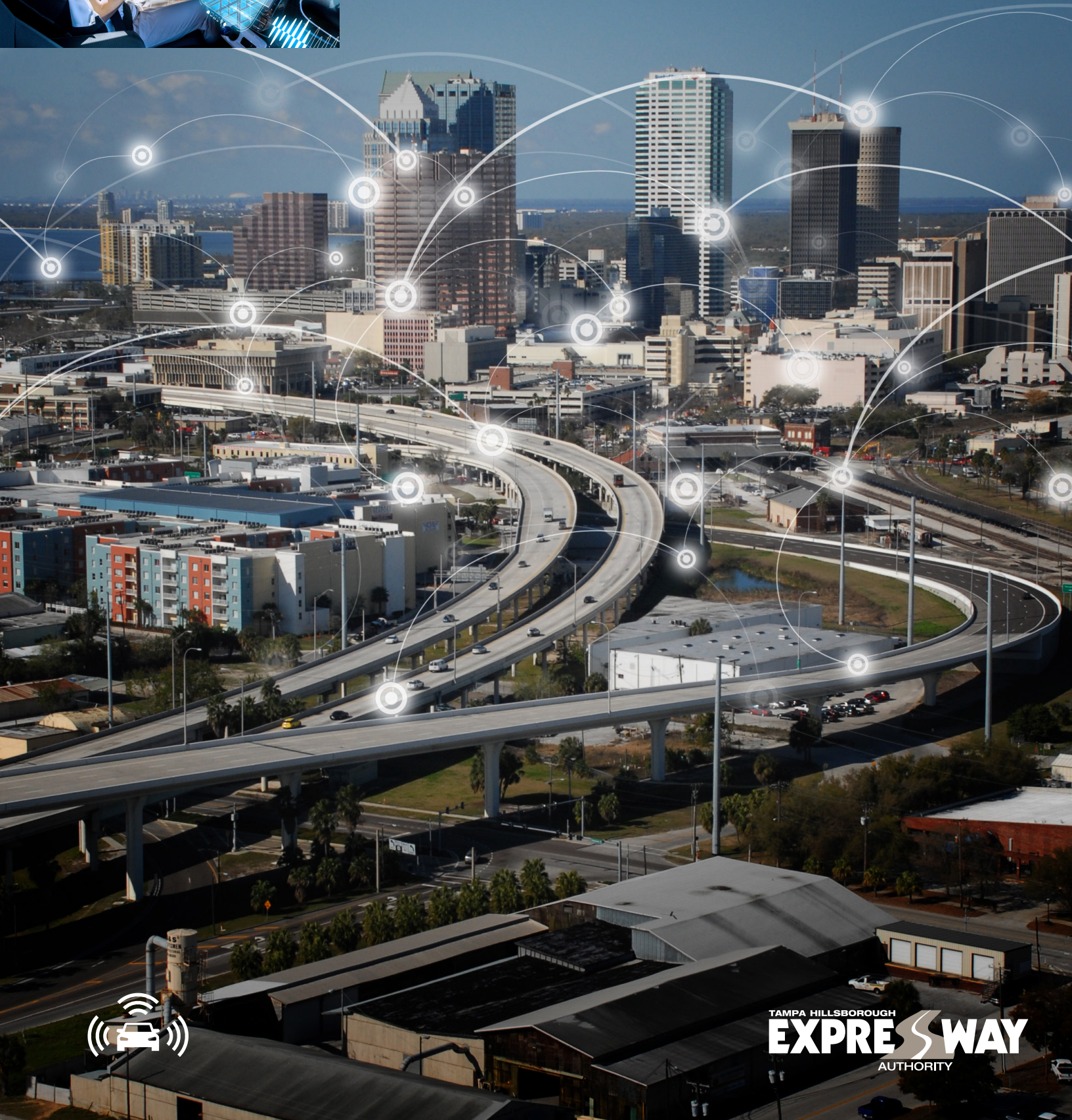




Driving innovation and implementing change





Test autonomous and connected vehicle technologies in a real-world environment

The Tampa Hillsborough Expressway Authority (THEA) is advancing autonomous vehicle (AV) and connected vehicle (CV) technology by offering our access-controlled toll road, arterial feeder roads, and office facilities to businesses to test and develop these emerging technologies.

The Reversible Express Lanes (REL) of the Lee Roy Selmon Expressway (SR 618) provide the perfect opportunity to test autonomous and connected vehicle technology. The REL was built as a “highway within a highway” to provide non-stop travel from the east suburbs to downtown Tampa. Because the REL parallels the local lanes of the Selmon Expressway, THEA is able to close those lanes during non-peak hours. THEA has the only USDOT-approved autonomous vehicle test site where vehicles can test on a closed and open course on the same roadway.

Because the REL provides direct service to downtown Tampa, it plays a pivotal role in the development of AV and CV technology. THEA is hosting one of three USDOT CV Pilot programs. The THEA CV Pilot is breaking new ground by using CV technology to improve the operations of the REL, help reduce daily commuter-based congestion, and reduce rear-end collisions and wrong way driving accidents. Additional features in the CV Pilot address pedestrian safety and transit (bus and historic streetcar) conflicts with passenger cars in areas of high volumes of mixed traffic. THEA partners with the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF), the City of Tampa, the Hillsborough Area Transit Authority (HART), the Florida Department of Transportation (FDOT) and private businesses.



Reversible Express Lanes of the Lee Roy Selmon Expressway



Florida Automated Vehicle Summit

Key area frameworks

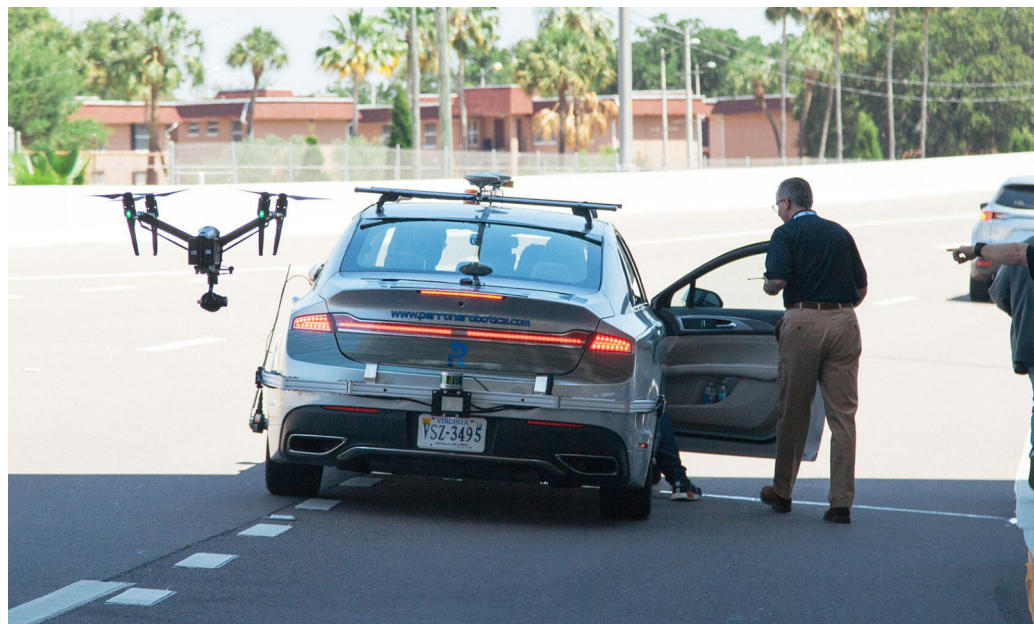


AREA STAKEHOLDERS



THEA can also host AV testing and events. Audi tested its traffic jam assist technology, which is now available on select models. The Society of Automotive Engineering (SAE) International hosted the first publicly-accessible demonstration of level four autonomous vehicles. The demonstration utilized the REL to provide a real-world test in a controlled environment while soliciting feedback from the public on the autonomous vehicle experience.

THEA is now one of the first agencies in the U.S. to host both a connected and an autonomous vehicle demonstration project.



All roads lead to Tampa Bay



Tampa Bay's leadership and business climate support innovative technology and promote a high quality of life, creating the perfect environment for those interested in advancing autonomous vehicle technologies systems. Tampa Bay provides an affordable, competitive, and efficient operating environment with the resources companies need to expand and thrive, including critical connectivity to Tampa International Airport, Port Tampa Bay, I-4, I-75 and I-275.



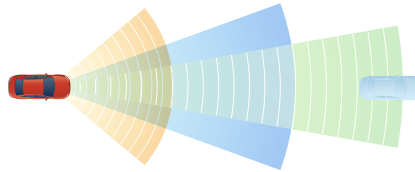
As the fastest growing metropolitan area in the state of Florida, we have a diverse and stable workforce that is meeting the demand for the rapid job growth creation in high-tech industries. When it comes to attracting and retaining top talent, Tampa Bay is one of the top 20 markets in the country. More than 4.2 million people live in the Tampa Bay region, with an active workforce of nearly 2 million.

In the next 25 years, it is expected an additional 1 million residents will live in the greater Tampa Bay area, impacting congestion and accident rates even more. We are actively improving our mobility and safety measures now to prepare for the future.

With a cost of living well below the national average, a mild seasonal climate and a wonderful variety of cultural and recreational amenities, Tampa Bay is a top destination for residents, forward-thinking companies, and visitors.



THEA at the Center

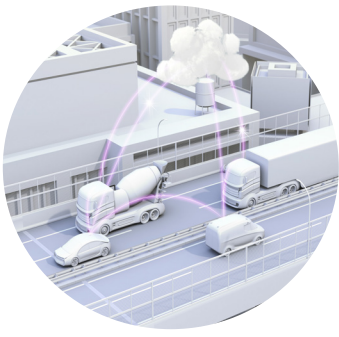


As a regional toll authority, THEA embraces cutting-edge technology and new mobility options. We also know we can't do it alone. THEA has built a strong relationship with agency sponsors, universities, business, and legal partners to further these efforts. The City of Tampa is an active partner in THEA demonstration projects. The city's traffic grid is connected to the THEA Traffic Management Center and the CV Pilot hardware and software all connect into the City of Tampa's traffic management software. Benefits of the CV Pilot will extend to help commuters, transit riders and pedestrians; it will also help the city better manage traffic in the downtown area.

FDOT committed funding for regional communication and traffic management infrastructure for the CV Pilot and other projects in the area. This additional connectivity bandwidth will provide opportunities for new mobility trials and possibilities in the future.

THEA as an agency is open to creative partnerships and unique project frameworks that benefit the nation and region. THEA frequently hosts tours by agencies from all over the world to share information and lessons learned.

As a result of the forward-thinking nature of the Tampa Bay region and THEA, many national and international companies are utilizing Tampa Bay as a live traffic test-bed to research and improve their own mobility solutions for the benefit of the Tampa Bay region and the industry as a whole.



A game changer

The technology behind autonomous vehicles can save lives, create jobs and lighten congestion during workday commutes. AV technology is a real game changer in transportation—it could be used in ports to move freight, on highways for daily work commutes and with transit to improve first-mile, last-mile issues. AV technology has the potential to impact customers' lives at a level equal to the "smart-phone."

Tampa Bay's natural climate and proximity to foreign markets is ideal for those developing products and technologies of the future. Researchers will be able to develop a range of applications and test them in real-world conditions. Tampa's Lee Roy Selmon Expressway test bed provides a real-world laboratory to test (mobility, environmental advantages, services, standards and components of autonomous and vehicle-to-vehicle communications) in both limited access and arterial road networks.



Unique aspects of the Tampa test bed

- » Mild climate conditions for year-round testing and research
- » Features both limited access toll road and arterial components
- » Ability for a portion of the road to shut down for testing.
- » Florida is one of a few states that have passed legislation allowing AVs to be tested on its roads.
- » Multi-modal—The Lee Roy Selmon Expressway test bed connects to many different types of transportation modes—Port Tampa Bay, bus transit, I-4 Connector toll road, and the nearby Tampa International Airport.
- » Selmon Greenway Pedestrian and Bicycle Trail: A 1.7 mile long, 15 foot wide urban trail adjacent to the Expressway
- » Access to high-speed communication network.
- » 13 overhead tolling gantries.
- » Dedicated buildings along the roadway for housing testing equipment or locating employees.



Creative partnership



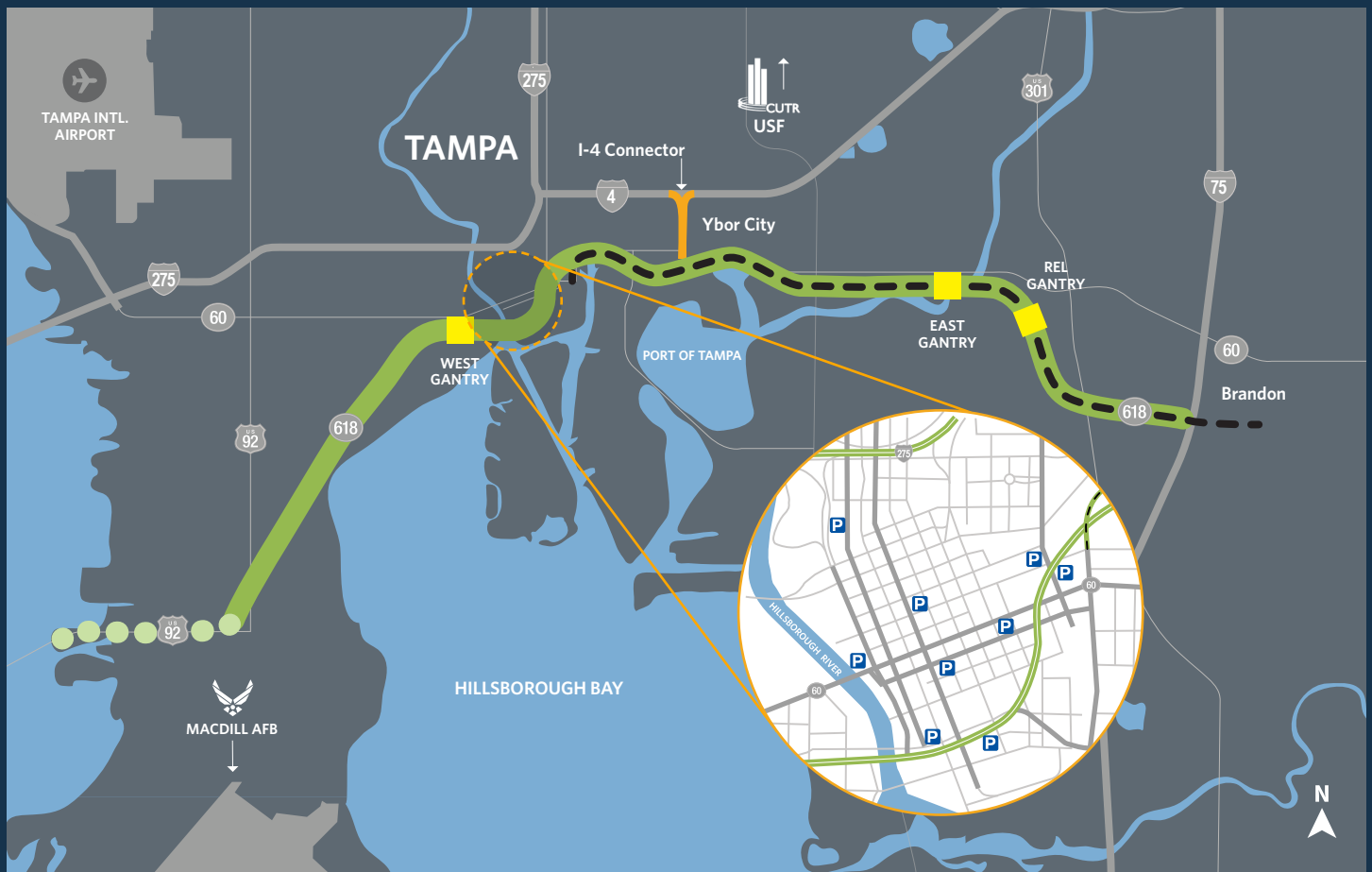
Tampa Hillsborough Expressway Authority—THEA

- » First expressway to convert to All Electronic Tolling (AET).
- » First all-electronic reversible expressway.
- » First to use image-based tolling in Florida.
- » Small organization, nimble and responsive.
- » Supportive legislation and business community.
- » Privatized maintenance contractors providing opportunities for support with implementation.
- » Partners with City of Tampa, Hillsborough County, FDOT, and HART.



Center for Urban Transportation Research (CUTR)—University of South Florida (USF)

- » Automated Vehicle Institute provides specialized research support in a local university setting.
- » Internationally recognized resources for policymakers, transportation professionals, and the public.
- » Provides high quality, objective expertise in the form of insightful research, in-depth policy analysis, comprehensive training and education, and effective technical assistance.
- » Faculty includes 45 full-time researchers combining academic knowledge and extensive real world experience to develop innovative, implementable solutions for all modes of transportation.
- » The multidisciplinary, research faculty includes experts in economics, planning, engineering, public policy and geography.



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Legend

-  Lee Roy Selmon Expressway (length 15 mi.)
-  Lee Roy Selmon Expressway and Reversible Express Lanes (length 10 mi.)
-  Arterial Roadway Connectors
-  Future extension of Lee Roy Selmon Expressway
-  Toll Gantries (13 total)
Ramp Gantries not shown
-  Parking Facilities

TAMPA HILLSBOROUGH
EXPRESSWAY
 AUTHORITY

USF
 UNIVERSITY OF
 SOUTH FLORIDA
CUTR

City of
Tampa
 Florida

Hillsborough
 County

HART

FDOT