

North Florida
Transportation Planning Organization



BRINGING THE FUTURE INTO FOCUS

2019 ANNUAL REPORT



MESSAGE FROM THE CHAIRMAN

Over the past year, we’ve seen our future coming into focus. New technology is in the planning stages and in some cases already improving our daily lives. Government agencies, businesses, educational institutions and non-profit organizations are collaborating to improve services and tackle community challenges. The Smart North Florida movement is growing and yielding results that will last far beyond technological advances. This annual report highlights progress made in these endeavors. One example: the North Florida TPO congestion management dashboard shows the power of the Integrated Data Exchange.

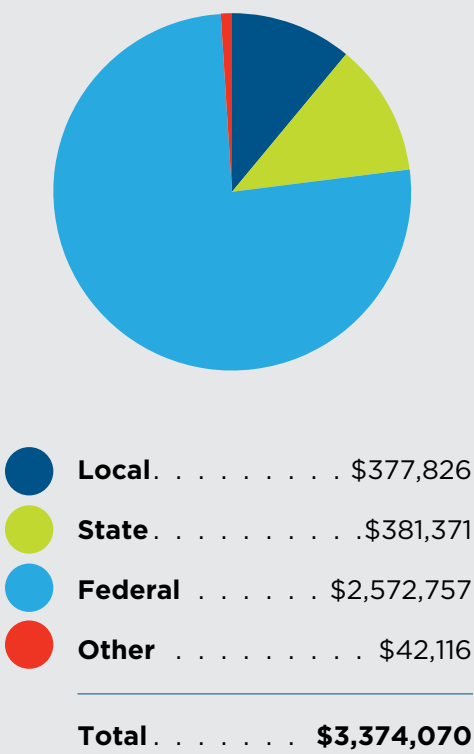
For the first time, our Long Range Transportation Plan considered the impact of connected and autonomous vehicles. The looming question is how they will be used in our transportation system - will they be mostly privately owned or operated as a service? At the other end of the technology spectrum, the Regional Trails Master Plan continues to value the importance of walking and biking for our region’s connectivity, wellness and environment.

Safety also remains a priority. The Regional System Safety Plan brought good news that we’re seeing a reduction in fatal and serious injury crashes, though we still have work to do in target areas including pedestrian and bicycle safety. The North Florida economy and environment continue to benefit from the TPO and Clean Fuels Coalition investments in education and infrastructure.

Finally, I would like to thank all those who have participated in our efforts through digital engagement in our programs and studies. Technology has elevated not only what we do, but also how we do it.

Danny Leeper
Commissioner
2019 North Florida TPO Chairman

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The Smart North Florida movement continues to advance projects and build relationships that will serve as the new “smart infrastructure” of our community. Learn more about the movement at smarthenorthflorida.com.

SMART NORTH FLORIDA PROJECT UPDATES

Integrated Data Exchange: Launched in 2019, the Integrated Data Exchange (IDE) is the foundation for information sharing for the Smart North Florida movement. The IDE allows members to share data that can be used across multiple platforms to increase value for members and the public. Currently there are 85 datasets on topics including transportation, economy, safety, transit, congestion, public health, resilience, jobs, education, emergency preparedness, housing, mobility and more. See the exchange at smartrnorthfloridadata.com.

TheBayJax Innovation Corridor: The design phase to install sensors that will enable smart devices along Bay Street will be completed by June 2020. Planning for storm sensor monitoring along Bay Street from the Jacksonville Regional Transportation Center to Talleyrand Avenue is in process.

Electric Autonomous Shuttles: The Jacksonville Transportation Authority is continuing its Ultimate Urban Circulator Program (U2C) to modernize and expand the Skyway.

Pavement Monitoring: Roadbotics is using advanced cameras and artificial intelligence to evaluate and predict pavement conditions on 92 miles of Clay County roadways.

Parking: The City of St. Augustine launched the ParkStAug mobile app for parking payment and management.

Waste: In conjunction with Waste Management, the City of St. Augustine is deploying Big Belly smart waste compacting cans that transmit data. An app measures can fullness and alerts city personnel when the containers are at capacity or malfunctioning.

Meters: JEA has completed installing two-way smart meters throughout its service territory. These meters enable proactive outage notification from the meter to JEA, so that crews can respond to problems faster. Additional tools include the ability for field crews to remotely “ping” all meters in a particular area, to ensure ALL customer problems are fixed before the crew departs.

Water Sensors: JEA has developed an advanced analytics model to assist with water pressure management throughout the water grid. The model optimizes customer water pressures (as reported by several water pressure sensors strategically placed throughout the grid) with the amount of water pumped from JEA wells, so that customers avoid low water pressure issues, while also protecting our invaluable Floridan aquifer resource for future generations.

Inspections: JEA’s virtual lift station inspections can now happen via sensors, high definition and infrared cameras that detect anomalies and show a remote control center technician the condition and temperature of critical equipment.

SMART NORTH FLORIDA IS BUILDING RELATIONSHIPS

Engagement and collaboration have been at the forefront of the Smart North Florida movement. We hosted five events with the JaxTAB and Smart North Florida Meetups in 2019. This platform has engaged nearly 1,000 people in the tech sector including students, start-ups, professionals and investors.



Ideafest was launched in December to crowdsource ideas to improve our community in the areas of safety, mobility, energy/climate, opportunity for all, economic growth, education and health. The next phase, POLLapalooza, provides online ranking to evaluate these ideas that will be used to frame cases for future Hackathons.

Meetings with the organizations in the non-profit sector continue to identify opportunities for collaboration, data integration and community problem-solving. Specific areas of focus have included homeless services and food deserts. Though transportation is a common thread in some of these issues, it is not the only solution. TPO Executive Director Jeff Sheffield spoke about “The Pulse Behind a Smart City” at the TEDx Jacksonville conference and highlighted the need for understanding the role of big data and collaboration in becoming a smart community that improves the lives of all citizens.



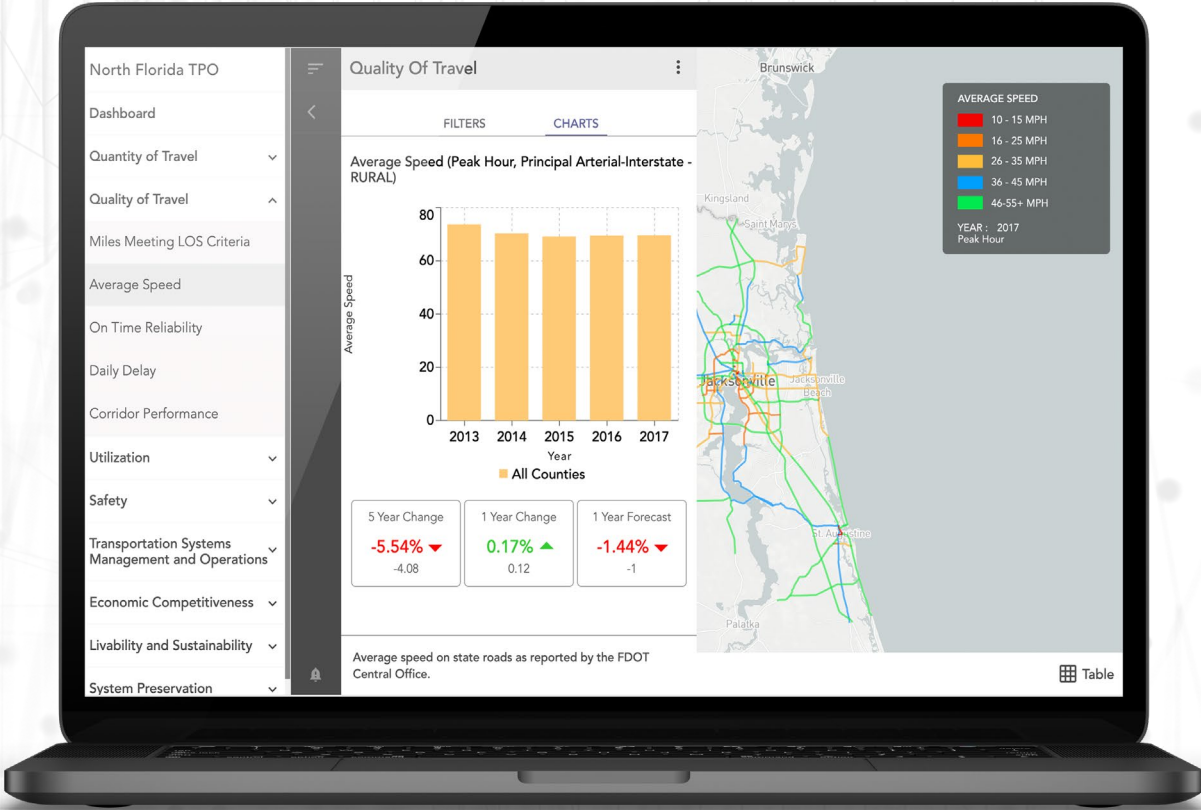
x = independently organized TED event



CONGESTION MANAGEMENT

The North Florida TPO has a Congestion Management Process (CMP) to improve traffic operations and safety by aligning strategies, objectives, and investments to ensure resources are dedicated to reducing congestion within the TPO planning boundary. This process was updated in 2019 and identifies key corridors and strategies to reduce congestion and improve mobility.

Each year the TPO analyzes travel trends and prepares an annual mobility report. In addition to the full report and summary brochure, this effort included a digital depiction for the first time. Data was aggregated from the Integrated Data Exchange to create a custom Congestion Management Dashboard viewable at cmp.northfloridatpo.com. This interactive tool provides a wealth of information and is a model for other custom dashboards that can be created for those participating in the Integrated Data Exchange (IDE).



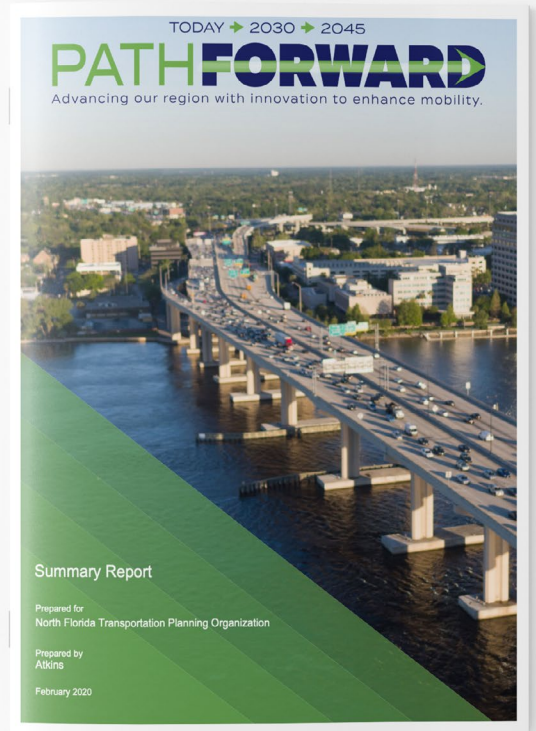
LONG RANGE TRANSPORTATION PLAN

The North Florida TPO wrapped up a two-year effort to update the Long Range Transportation Plan (LRTP) to the year 2045. Public input was gathered in neighborhood and community group meetings and events, a survey, telephone town hall and community workshop. Through this public input and technical analysis, over 280 needed projects were identified for Clay, Duval, Nassau and St. Johns counties totaling over \$6.6 billion. However, based on the forecasted revenues, there will only be sufficient funding for about one-half of these projects.

The project list was narrowed to meet projected revenue available and the 2045 Cost Feasible Plan was adopted November 14, 2019. It contains 78 projects and seven mobility programs totaling \$3.6 billion in current year dollars. The projects include roads, transit, bicycle, pedestrian, freight, intelligent transportation systems (ITS) and safety improvements.

New to the LRTP is an analysis of the potential impacts Connected and Autonomous Vehicles (CAVs) may have on the transportation system. The analysis considered different market saturation rates of privately owned CAVs and determined vehicle miles traveled (VMT) will likely increase along with the number of trips on the network as growth in autonomous vehicles increases. However, VMT went down with a higher mix of Transportation Network Companies (phone app-based ride sourcing such as Uber and Lyft) operating the CAVs as a service. The costs for these services are perceived to be higher and could reduce usage.

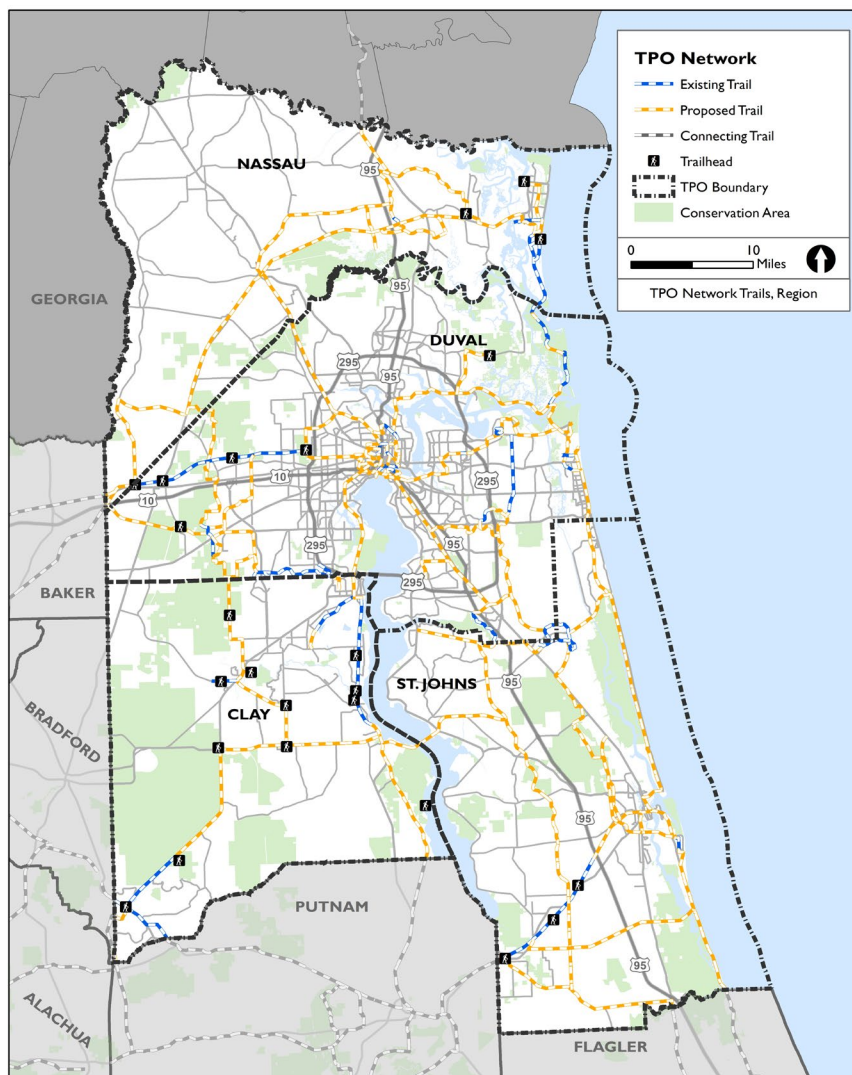
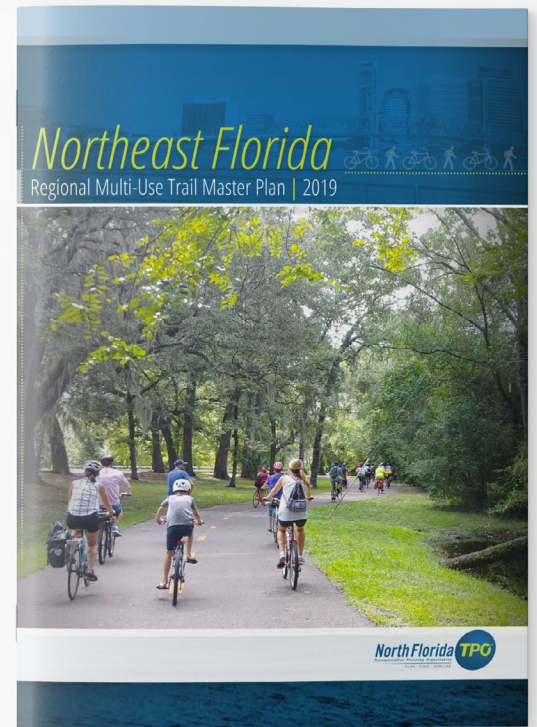
The future of mobility will rely on emerging technologies in Connected Vehicles (CV), Electric Vehicles (EV), Automated Vehicles (AV), the Internet of Things (IoT), and the digital infrastructure to create smart communities.



REGIONAL TRAILS MASTER PLAN

The Regional Trails Master Plan focuses on 12-foot wide, asphalt, multi-use trails eligible for Shared Use Network (SUN) Trail state funding. The Plan was developed by identifying planned and existing trails, and working with a technical advisory committee and local staff representatives to add and revise trails with an emphasis on larger, regional connections creating the trail network.

The master plan depicts the North Florida TPO Trail Network consisting of approximately 570 miles of proposed trails. Visit northfloridatpo.com to view the trail network and descriptions of existing and proposed segments.



REGIONAL SYSTEM SAFETY PLAN

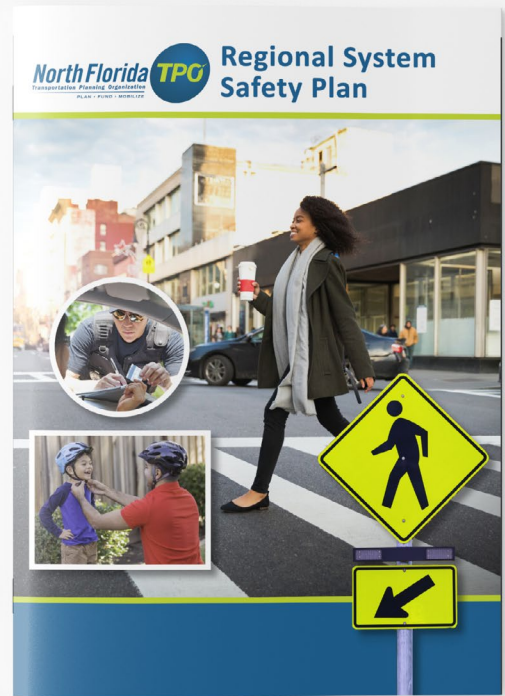
The 2019 North Florida TPO Regional System Safety Plan identifies safety conditions and needs within Clay, Duval, Nassau and St. Johns counties and provides a framework for addressing regional safety issues. The Plan was developed through crash analysis and an online public input survey with over 11,000 responses and 1,000 comments. Respondents identified safety problem locations, and evaluated priorities and strategies.

Crash analysis for the five-year period from 2014-2018 showed that while population increased by 8% and vehicle miles traveled rose by 5%, total crashes jumped by 16% during that timeframe. However, the number of crashes resulting in fatalities or serious injuries decreased by 30%.

Based on the number of total, serious and fatal injury crashes, the region's top three emphasis areas are intersection, careless driving and lane departure crashes. Pedestrian and bicyclist, motorcyclist and unrestrained occupant crashes are also important within the region as more than 70% for each type result in death or injury.

Crash locations were studied in addition to types. Forty-two corridors were identified as high-crash corridors. Most are state roadways with the majority located in Duval County and the remainder spread across St. Johns (four), Clay (three) and Nassau (two) counties.

The plan concludes with potential strategies and countermeasures to help achieve the region's safety goals and performance targets. Changes in how we plan and design roadways, incorporate technology, enforce traffic laws and regulations, and educate the community will reduce crashes and lower crash severity. View the plan at northfloridatpo.com.



CLEAN FUELS

The North Florida Clean Fuels Coalition held several events in 2019. The March Coalition meeting focused on “Fulfilling the Promise of LNG” and featured panelists Eric Kuenzli, Pivotal LNG; Captain Cole Cosgrove, Crowley Maritime; Joseph McGough, Florida East Coast Railway; and moderator David Stubbs, JAXPORT.

Much of the summer was spent awaiting news of Florida’s VW Settlement mitigation outcome. Florida Department of Environmental Protection representative John Paul Fraites joined the Coalition’s fall meeting to announce the VW Settlement Electric School Bus Project and requests for information from those interested in receiving funding for school, transit, and shuttle bus replacement; light-duty electric vehicle charging infrastructure (EVCI); and the Diesel Emissions Reduction Act (DERA) state grant program.

The biennial Clean Fuels Summit in November highlighted the evolution of clean fuels acceptance since the first Alternative Fuel Vehicles Expo in 2013. The program’s emphasis has advanced beyond getting people familiar and comfortable with alternative fuels in general to sharing the experiences, benefits and growing status of clean fuels. The logistics panel moderated by Ben Moore, RS&H, included James Bennett, JAXPORT; Rod Keefe, Florida East Coast Railway; and Eric Kuenzli, Pivotal LNG. The buses panel moderated by Chris Rustman, Florida Transportation Systems, featured Horacio Cervantes, TECO Energy; Mark Denton, Blossman Gas; and Alexander Traversa, Jacksonville Transportation Authority (JTA). Peter King, Duke Energy / Drive Electric Florida, also presented the state of electrification in Florida.

The North Florida TPO continues to add ChargeWell stations with the newest stations in St. Augustine and additional stations planned for Jacksonville International Airport and JTA Park-n-Ride locations.





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