



FTP-SIS Resilience Subcommittee Meeting #2

September 17, 2019, 1:30 pm – 3:30 pm EDT

Florida Department of Transportation
Burns Building, Room 228; GoToMeeting
605 Suwannee St, Tallahassee, FL 32399

MEETING OBJECTIVES

The FTP-SIS Resilience Subcommittee will meet regularly to focus on transportation system resilience to environmental, community, and economic disruptors and support the update of the FTP. The objectives of this meeting include:

- Review the upcoming FTP-SIS Plan update cycle
- Review the FTP-SIS Resilience Subcommittee charge and work plan
- Discuss FDOT priorities and cross-cutting topics
- Discuss current transportation system resilience trends, issues, initiatives, and best practices

For additional information, please contact Jennifer Carver at (850) 414-4280 or Jennifer.Carver@dot.state.fl.us.

MEETING ATTENDEES

Attendees

Janet Bowman, *The Nature Conservancy**
John Leeds, *Florida Department of Agriculture and Consumer Services*
Tony Morgan, *Florida Department of Agriculture and Consumer Services*
Whitney Gray, *Florida Department of Environmental Protection**

Call-in Attendees

Alix Miller, *Florida Trucking Association**
Barbara Lenczewski, *Florida Department of Economic Opportunity**
Casey Grigsby, *Florida Ports Council**
Chris Stahl, *Florida Department of Environmental Protection*
Christina Miskis, *South Florida Regional Planning Council*
Cindy Price, *Florida Senate*
Crystal Goodison, *UF GeoPlan Center*
Debbie Bass, *Florida Division of Emergency Management*
Dennis Smith, *Florida State University*

Doyle Walsh, *Pinellas County**
Emily Wallace, *National Oceanic and Atmospheric Administration*
Fritz Wettstein, *Florida Fish and Wildlife Conservation Commission*
Hank Hodde, *Pinellas County Sustainability & Resiliency Coordinator*
Jake Leech, *Palm Beach County*
Jenifer Rupert, *East Central Florida Regional Planning Council*
Ken Bryan, *Rails-to-Trails Conservancy**
Laura Beagle, *Florida Division of Emergency Management*
Laura Cherney, *AECOM*
Laura Waterman, *Florida Division of Emergency Management*
Paul Owens, *1000 Friends of Florida**
Samantha Danchuk, *Broward County Environmental Planning and Community Resilience Division*
Tara McCue, *East Central Florida Regional Planning Council*

FDOT Staff

Andrew Jungman, *District Six*
 Brian Richardson, *Emergency Management*
 Dana Reiding, *Office of Policy Planning*
 Ed McKinney, *District Seven*
 Gregor Senger, *District Four*
 James Poole, *District Four*
 Jason Watts, *Office of Environmental Management*
 Jennifer Carver, *Office of Policy Planning*

Lois Bush, *District Four*
 Romero Dill, *Office of Policy Planning*
 Steven "Craig" James, *District Six*

Consultants

Bob Chamberlin, *RSG*
 Danny Shopf, *Cambridge Systematics*
 Joe Crozier, *Kimley-Horn*
 Jon Sewell, *Kimley-Horn*
 Macy Fricke, *Kimley-Horn*

**Asterisks represent Resilience Subcommittee Members (or their representatives)*

MEETING SUMMARY**Welcome and Introductions**

Jennifer Carver opened the meeting with introductions around the room and on the phone.

FTP Update

Jennifer proceeded to provide an update regarding the Florida Transportation Plan (FTP) Update. She shared that the update kicked off in May 2019 and is supported by a 33-member Steering Committee. The FTP is supported by two subcommittees: Automated, Connected, Electric, and Shared (ACES) vehicles and Resilience. The Department is also forming a Safety Subcommittee.

The Department is collaborating with MPOs around the state as well as the FDOT Districts. A series of webinars will be held, starting with the October 3rd kickoff for the Resilience Campaign, and regional workshops are scheduled for Spring/Summer 2020. These outreach efforts will offer numerous opportunities for citizens engage in the FTP update process. A section of the FTP website titled *Get Involved* was developed to support the engagement goals and currently has several available surveys, a calendar, and other resources.

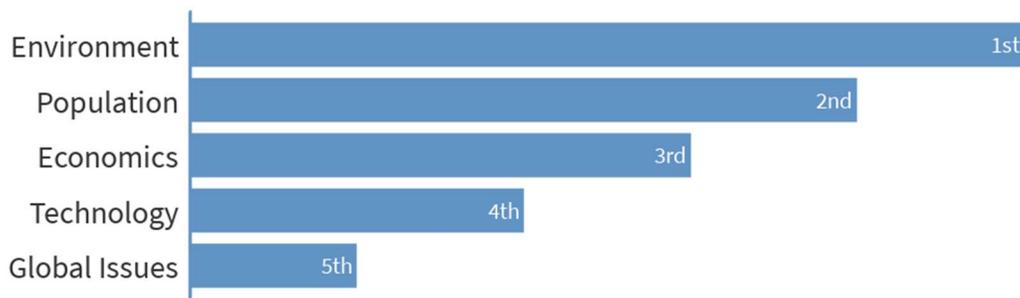
The current FTP has seven goals which are being refined and revised. Once these goals are solidified, the focus will turn to objectives and strategies. The Vision Element is planned to be complete by December 2019.

Implications of Florida Growth for Transportation and Resilience

Dennis Smith with Florida State University shared the first presentation of the day. He began his dialog by asking participants a polling question.

When poll is active, respond at PollEv.com/ftp2045

Given the following five risk areas affecting transportation, how would you rank them in order of importance?



Dennis moved on to share that teams from Florida State University, University of Florida, and University of South Florida are finalizing on an assessment of planning risks and alternative futures for the FTP update. The teams were tasked with independently conducting research to identify planning trends and risks and future transportation planning implications. There were common conclusions from each of the universities but no “right answer.”

Population growth and changing demographics were the first trends discussed. Dennis shared that Florida’s aging population may have a major impact on transportation in Florida when considering needs for various transportation modes, among other changes. Economic changes tied to transportation were also considered. These include broader use of alternative fuels for public and private transit, losses in gas tax revenue, and other concerns. Public-private-partnerships were suggested as an option to support the economic needs. Disruptions from emerging technologies, such as autonomous vehicles, and cybersecurity issues related to those technologies were also considered by each university. The teams also identified benefits from new technologies such as cleaner air and safer transportation facilities. The last risk area, global issues, included an increased threat of terrorism disrupting fuel supply and the potential of sea level rise driving climate migrants to the nation.

While each university worked separately, they were supported by expert opinions and utilized various tools, including risk registers, to identify potential future disruptors and their implications for transportation planning.

Since the study, the teams have used tools developed to guide some interactions at FTP visioning session. The universities discussed the project at the American Planning Association Florida Chapter’s Annual Conference in September and have submitted a session proposal for the American Planning Association’s National Conference.

Florida Resilient Coastlines Program

Whitney Gray, representing the Florida Department of Environmental Protection's (FDEP) Office of Resilience and Coastal Protection shared recent efforts of the Florida Resilient Coastlines Program (FRCP). Whitney shared that the current FDEP approach to resilience is focused on Florida's coast, but they are considering interior connections to resilience as well.

In 2011, FDEP started a community resiliency initiative through funding from the National Oceanic and Atmospheric Administration (NOAA) in collaboration with the Department of Economic Opportunity (DEO) to provide technical assistance to coastal communities to support innovative resilience planning and development strategies. To date, the FRCP has funded 60 community projects in 14 counties and 46 cities and is continuing to expand these efforts. The program has been a line item in the state budget for the last two fiscal years, with an allocation of nearly \$4.5 million in FY2019-2020. The FRCP also distributes other state and federal funds to support local governments through resources, funding and coordination tied to coastal resilience.

In collaboration with DEO, the FRCP developed and piloted Adaptation Action Areas, Vulnerability Assessments and Adaptation Plans. The Florida Adaptation Planning Guidebook was a result of these efforts. Additionally, the FRCP has supported the efforts of local governments to meet the requirements of Peril of Flood Statute, which requires consideration of sea level rise in coastal management elements of comprehensive plans. To date, of the 211 coastal communities, 90 have adopted these policies, with over one-third of these communities supported by FRCP funding. FRCP is also engaged in technical assistance outreach. Joe Bauer has been visiting interest local governments around the state to share decision support tools and interactive, data-driven websites, including the Sea Level Scenario Sketch Planning Tool, developed by UF GeoPlan Center with funding from FDOT.

Attendees had the following questions and comments:

- A survey regarding vulnerability assessment and adaptation efforts of local governments was sent out by FDEP recently. Have those results been compiled?
 - Yes, the survey has been completed. Some of the results were presented at the American Planning Association Florida Chapter Annual Conference, but Dr. Will Butler is still in the process of completing the task. Whitney is coordinating with Dr. Butler to finalize the results.
- How will FDEP be coordinating with FDOT to improve the resilience of local and/or state transportation networks?
 - FDEP has representation in both the FTP/SIS Steering Committee and on the Resilience Subcommittee. FDOT staff also participate in the quarterly Coastal Resilience Forum meetings and other programs.
- Will the Climate Action Plan have a transportation consideration?
 - For this to be a robust plan, transportation will likely need to be incorporated. Based on other plans like this around the nation, yes, transportation should play a role in the Climate Action Plan.
- Are there plans to add the GIS tools discussed in the PowerPoint to the FDOT Efficient Transportation Decision Making (ETDM) website?

- Yes, however, discussions regarding which layers to include and what assumptions ought to be made continue. We will be coordinating with the new Chief Resilience Officer on these discussions.
- Has there been any discussion about standardizing sea level rise projections and maps to use consistently throughout the state?
 - Yes, those conversations have been started, but no formal decisions have been made. FDEP is looking at advanced sea level rise projections which consider a non-linear approach. Currently, we are focused on improving what we are doing now in projecting sea level rise and the impacts to Florida's transportation investment decisions.
- Is there any effort to revisit previously approved but not yet initiated projects that could be subject to sea level changes?
 - Jason Watts shared that if a project has been through Project Development and Environment (PD&E) and FDOT adopts a new standard, the projects are brought up to the new standards before they move to the next phase.

Attendees were asked to provide their input on some of the economic benefits of adaptation to sea level rise. Their responses were:

- Access to jobs
- Not spending money over and over to rebuild at current levels when infrastructure is impacted
- Planning out for the new standards to adjust infrastructure for sea level rise as the useful life of the infrastructure is met
- Helps protect property values
- Reduced maintenance costs
- More resilient communities that are not closed or impacted by sea level rise and not losing private money
- Safety
- Tourism

Alternative Transportation Energy Sources and Resilience Planning

John Leeds from the Florida Department of Agriculture and Consumer Services Office of Energy presented on efforts toward resilience that tie to transportation. John shared that the office is not regulatory but develops policy and programs for the state. An example of a recent effort is the Drive Electric Orlando program. This program was implemented through a \$400,000 award to encourage people to use electric vehicles in the Central Florida region. Electric vehicles were provided to visitors through rental car fleets at the Orlando International Airport. The program also offered additional perks including free valet and convenient parking. At the end of the study, 42% of renters polled stated that they significantly changed their view on electric vehicles as a result of this program. The program is ongoing through the City of Orlando.

John then discussed the Electric Vehicles (EV) Roadmap. Development of the Roadmap kicked off in May 2019 through a stakeholder meeting with the intent of identifying EV charging infrastructure and its impact on the electric grid. The product is also intended to identify best practices for siting EV charging stations and other potential barriers for EV infrastructure. John shared they are currently developing scope of work with National Energy Labs for additional research.

The Alternative Fuel Resiliency Plan was also discussed. The Office of Energy received a competitive award to develop this plan. The plan will involve cataloguing alternative fuel infrastructure, including

details on each site, and developing best practices regarding resiliency for locating alternative fuel infrastructure and analyze emergency response efforts.

Attendees had the following questions and comments:

- Have micromobility devices been considered in the Alternative Fuel Resiliency Plan?
 - No, that is not something we have considered yet but something that would be worth including.
- Local governments may be pursuing National Renewable Energy Laboratory (NREL) modeling along the same timeline. It may be useful to compare scopes to avoid duplicative efforts. How could that be done?
 - The Department of Energy is working with USF on this project and they have already completed some modeling. Department of Energy has been coordinating with stakeholders throughout this process to ensure others are aware of what is being developed.

John added that the Florida Energy and Climate Summit was rescheduled to October 1-3, 2019 due to Hurricane Dorian. He invited thoughts and suggestions to be sent to him at John.leeds@freshfromflorida.com.

Attendees were asked what top strategy could be implemented as part of the FTP to support the development of a statewide alternative fuel resiliency plan. Their responses were:

- Engage stakeholders to gather necessary information
- Identification of state multi-modal funding opportunities to implement alternative fuels infrastructure
- Facilitate effective coordination across multiple parties/interests
- Tax vehicle miles traveled
- Work with local planners to identify sites for facilities.
- Have policies to allow charging stations in FDOT roads

East Central Florida Regional Resilience Collaborative

Tara McCue and Jenifer Rupert from East Central Florida Regional Planning Council (ECFRPC) discussed how their agency has been approaching resilience locally. Their jurisdiction includes all counties in FDOT District Five except Flagler County. With such a large geographic area, they find it critical to have all parties at the table to ensure interactions between sectors. Tara shared the importance of FDOT to consider that local governments are currently updating comprehensive plans for Adaptation Action Areas and Peril of Flood Statutory requirements.

It was recommended that FDOT consider vulnerability and loss of capacity in coastal areas and access to facilities, beyond just roadways. The ECFRPC considers regional impacts, ports, stormwater storage and groundwater connections as well as short- and long-term impacts.

Their Regional Resiliency Action Plan funded through FDEP has involved over 50 partners over 18 months. Both the River to Sea and Space Coast TPOs have adopted this stakeholder-driven plan. The plan considers how sea level rise may impact infrastructure, as well as impacts to the economy and society. The ECFRPC hopes transportation is considered in resilience discussion and that resilience aspects are added to LRTPs and Transportation Improvement Programs.

Jenifer Rupert then discussed the East Central Florida Regional Resilience Collaborative. The goal of this collaborative is to reduce carbon and risk, while increasing sustainability. In September 2018, ECFRPC

recommitted to a regional focus by passing a resolution to develop a structure for collaboration under the resilience umbrella. The ECFRPC is also considering the benefits of moving from the coastal view of resilience to also considering how interior areas are connected and impacted. The collaborative's steering committee identified people, places, and prosperity as three pillars to support the region's resilience efforts. The effort currently includes eight counties and 78 municipalities.

The attendees were asked to provide input on the top strategies that could be implemented through the FTP to support regional transportation resilience issues. Their responses were:

- Statewide coordination to engage regions and consolidate information at the state level. Purpose of this is to coordinate efforts and avoid duplicative efforts
- Highlight such initiatives along with current highlighting of regional and community visions in current FTP
- Participate in the collaboratives
- Consider future generations & their approach to Transportation- not wanting cars - wanting mass transportation
- Consider existing regional resilience plans and engage
- Adopt or develop a strategy to plan for sea level rise or default to the regional approach
- Support green infrastructure
- User groups

Transportation Resilience Planning Around the Country

Bob Chamberlin provided a presentation regarding national efforts toward resilience as other DOTs and MPOs wrestle with addressing the issue in their long range transportation plans (LRTPs). The USDOT has developed a new Planning Factor focused on resilience: improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation. Resilience is most commonly addressed through four primary mechanisms in LRTPs through:

- Defining goals and objectives
- Identifying asset vulnerabilities
- Screening projects or modifying investments in vulnerable areas
- Including resilience criteria for evaluating projects

Many MPOs have addressed resilience planning in their 2045 LRTPs. FHWA is working to provide guidance to support this effort. Bob also added that Delaware DOT has strong collaboration regarding coastal resiliency across state agencies while NCDOT has a focus on climate mitigation. Currently, Ohio, Vermont and New Jersey DOTs have statements to address vulnerable areas in their LRTPs. He noted the advanced sea level rise modeling in Florida.

Delaware DOT has developed a list of 80 recommendations with many tied to resilience in an evaluation matrix. This matrix utilizes four implementation categories to drive the scoring. The current highest scoring recommendation is to develop geospatial data to identify vulnerable areas

Ken Bryan shared that it is impressive that the state of Massachusetts has shifted to include cycling in the resilience component.

Attendees were asked to identify the single best practice from other states to consider for the development of the FTP. Their responses were:

- Invest in making transportation infrastructure more resilient while supporting multimodal transportation and supportive land use delivering multiple viable ways for people to travel
- Vulnerability analysis of key infrastructure and use that for planning future projects

- Massachusetts created a mode shift for cycling that has a resiliency component
- Prioritize the implementation of initiatives
- Make a bold statement about resilience so the department won't be swayed
- Considering vulnerability of an area
- Prioritize rail and transit and not on building roads
- Adopt an approach to planning for sea level rise

Group Discussion

Jennifer stated that we have heard a lot about what is happening with state agencies and around the nation. **Attendees were asked what are effective strategies to make Florida's transportation more resilient? Their responses were:**

- Effective integration of transportation and water resources/stormwater management planning and implementation, more creative approaches to stormwater management
- Alternative fuel corridor(s), especially interstates
- Evacuation is limited to personal vehicles, could the role of transit be expanded
- Make resilience part of the prioritization process along with alternate modes of transportation
- Coordinate all the various components by engaging stakeholders
- Provide guidance/direction on investments including coordination across multiple players and plans and supported by effective performance metrics
- Make sure all projects include a health and resilience/vulnerability assessment
- Don't build in vulnerable areas
- Use sea level rise projections when planning bridge approaches

After the poll, attendees had the following questions and comments:

- We need to get specific in terms of acting on vulnerabilities regarding FDOT investments. These should be supported through specific implementation timelines and targets.
 - We will be drilling down into the strategies at the next meeting. Start brainstorming now. Want to create a comprehensive list and have a prioritization exercise as a part of that.
- We must work to collaborate and coordinate different components of resilience while engaging stakeholders as much as possible. We should work to align the efforts led by communities and agencies across the state.
- Since the last FTP update in 2015, the State of Florida has experienced significant hurricanes. We should be considering strategic infrastructure investments and how these investments impact emergency evacuation. We should also be considering strategies that support shelter policies and practices.
- When evacuation is underway, fuel is a concern. Availability of operational and sufficient charging stations for electric vehicles is also a concern.
 - The FDACS Office of Energy is researching opportunities to partner with solar facilities in strategic locations to support the needs of electric vehicle users during major evacuations.
- There is a discussion of building new toll roads as a strategy to evacuate. However, if existing roads have not been improved to handle storms, we may need to consider improving existing infrastructure or regional shelter facilities.

- Considering that local roads are responsible for a substantial portion of stormwater retention, how might communities recover this lost stormwater holding capacity when they are elevated to increase vehicular capacity?
 - FDOT may require updates to the stormwater design standards to account for lost stormwater holding capacity. However, due to the permitting process to make these changes, agencies are required to address the loss in storage on the road.

Adjourn

Jennifer thanked the attendees for joining the meeting. She added that on October 3rd, the Resilience Campaign will kick off with a webinar. She concluded the meeting by reminding the group that the next meeting will take place in Fort Lauderdale on October 29 -30, 2019.

Please direct any questions to Jennifer Carver at Jennifer.Carver@dot.state.fl.us or (850) 414-4820.