

# **Resilience Subcommittee Meeting**

#### February 5, 2020

FDOT Burns Building Executive Conference Room 605 Suwannee St Tallahassee, FL 32301

### MEETING OBJECTIVES

The Florida Transportation Plan (FTP)-Strategic Intermodal System (SIS) Resilience Subcommittee is supporting the FTP update by focusing on transportation system resilience to environmental, community, and economic disruptors. The objective of this meeting is to discuss potential strategies to incorporate resilience into the FTP.

For more information, please contact Jennifer Carver at (850) 414-4820, <u>Jennifer.Carver@dot.state.fl.us.</u>

### MEETING ATTENDEES

Subcommittee Members		
Alix Miller, Florida Trucking Association	Ken Bryan, Rails-Trail Conservancy	
Janet Bowman, The Nature Conservancy	Whitney Gray, Florida Department of	
	Environmental Protection	
James Stansbury, Florida Department of		
Economic Opportunity		
Friends (* indicates online attendees)		
*Ingrid Birenbaum, Moffatt and Nichol	*Margo Moehring, Northeast Florida Regional	
	Council	
*Levi Stewart-Figueroa, Broward	*Allison Yeh, Hillsborough Metropolitan	
Metropolitan Planning Organization	Planning Organization	
*Tara McCue, East Central Florida Regional	*Paul Flavien, Broward Metropolitan Planning	
Planning Council	Organization	
*Anna Quinones, <i>Tampa Hillsborough</i>	*Katherine Hagemann, Miami-Dade County	
Expressway Authority		
*Steven Gayle, RSG	*Dan Hardy, Renaissance Planning Group	
*Beth Medina, Enterprise Florida, Inc.	Michael Sherman, Federal Highway	
	Administration	
*David Boyer, Scalar Consulting Group Inc.	*Samantha Danchuk, Broward Metropolitan	
	Planning Organization	
*Colleen Ross, Jacobs Engineering	*Maryam Ghyabi, Ghyabi Consulting and	
	Management	
*Christina Miskis, South Florida Regional Planning	*Margo Moehring, Northeast Florida Regional	
Council	Council	



Friends (* indicates online attendees)		
*Bob Frey, Tampa Hillsborough Expressway Authority	*Ray Collins, Enterprise Florida	
*Thomas Wahl, The University of Central Florida	*Crystal Goodison, UF GeoPlan Center	
*Sean Sullivan, <i>Tampa Bay Regional Planning</i> Council	*Vinod Sandanasamy, Miami-Dade County	
*Stephan Harris, <i>River to Sea TPO</i>	*Anne McLaughlin, Collier Metropolitan Planning Organization	
*Allie Caldwell, Florida Department of Agriculture and Consumer Services	*Alex Harris, <i>Miami Herald</i>	
FDOT Staff (* indicates online attendees)		
*Michael Sherman, FDOT District Three	Jim Halley, FDOT Office of Policy Planning	
*Lois Bush, FDOT District Four	Erika Thompson, FDOT Office of Policy Planning	
*Larry Hymowitz, FDOT District Four	Romero Dill, FDOT Office of Policy Planning	
*Karen Snyder, FDOT District Five	Scott Philips, FDOT Office of Policy Planning	
*Heather Garcia, FDOT District Five	Rebecca Marsey, FDOT Office of Policy Planning	
*Judy Pizzo, FDOT District Five	*Carlton Spirio, FDOT Roadway Design Office	
*Steven 'Craig' James, FDOT District Six	Jim Wood, <i>Kimley-Horn</i>	
*Roger Roscoe, FDOT District Seven	*Jennifer King, FDOT Systems Implementation Office	
Catherine Earp, FDOT Drainage Section	Monica Zhong, FDOT Systems Implementation Office	
Jennifer Green, FDOT Drainage Section	Joe Crozier, Kimley-Horn	
Holly Cohen, FDOT Freight and Multimodal Operations Office	Macy Fricke, <i>Kimley-Horn</i>	
Mark Reichert, FDOT Office of Policy Planning	Danny Shopf, Cambridge Systematics	
Jennifer Carver, FDOT Office of Policy Planning		

## MEETING SUMMARY

### Welcome, Introductions, and Subcommittee Charge

Jennifer Carver, FDOT, welcomed meeting attendees and thanked them for their participation. She asked participants to introduce themselves and reviewed the meeting agenda. Jennifer said the Resilience Subcommittee would review the top strategies at the last Resilience Subcommittee meeting and work toward producing a final list of strategies for the identified FTP Steering Committee.

### **Top Strategies Overview**

Jim Wood, Kimley Horn, provided an overview of the top resilience priorities that were identified at the previous Resilience Subcommittee meeting:



- Develop and implement policies, tools, guidance, and design standards that reduce risk
- Develop consistent statewide transportation planning practices that incorporate resilience
- Ensure that **vulnerable populations** are considered fully in transportation resilience planning
- Integrate resilience data into transportation planning and design
- Consider both coastal and inland resilience in transportation planning
- Establish a statewide framework for collaboration to achieve transportation resilience

He then reviewed the top resilience strategies in support of those priorities and offered options with refined strategy language:

#### Table 1. Top Resilience Strategies with Refined Language

Top Resilience Strategies	Language Refined
Integrate land use in transportation planning for	Integrate land use in transportation planning to
stronger growth management	strengthen growth management and resilience
Improve coordination across jurisdictions, plans	Improve coordination and collaboration across
and entities	jurisdictions, plans and entities
Incorporate resilience into FDOT design	Incorporate resilience into FDOT design
standards	process, criteria, and standards
Require resilience in infrastructure planning and	Integrate resilience data into transportation
design	planning, prioritization and project selection
Stable funding source (reduce dependence on	Establish sustainable and stable funding
gas tax / find an alternative)	source to support resilience planning and
	implementation
Use natural infrastructure	Utilize green infrastructure to provide natural
	protection for vulnerable areas
Modify transportation facility design to improve	Incorporate innovative design and best
infrastructure resilience	practices into projects to improve
	infrastructure resilience



Top Resilience Strategies	Language Refined
Identify incentives to relocate land uses	Incentivize relocation of land uses and
dependent on vulnerable infrastructure	infrastructure away from vulnerable areas

Jim asked participants if they had comments or reactions to the proposed refinements. Participants had the following questions and comments:

- It is important to have a specific definition of resilience for these strategies to flow from, and does this definition need to be broad or narrow?
  - We will discuss that in greater detail later in the meeting. Currently, we are using a fairly broad definition of resilience.
- Have we done peer state evaluations to identify their resilience practices and identified practices that could be applied in Florida?
- What do we mean by applying resilience into design processes, criteria, and standards? It could mean a few different things from an engineering perspective. Design strategies may need to be explicit.
- The priorities were very specific while the strategy concepts are a little broader. The refined strategy language is more specific which is good. It could be helpful to include some key examples to help illustrate how the strategies would work in practice. The examples are a great way to demonstrate how we would like to see these strategies implemented.
  - Intent may be to keep the strategies broad and reach specificity during implementation.
- Change the way projects are designed as well as chosen and funded may make it so that some projects aren't feasible due to vulnerabilities
- It is important to include water resource planning as an element of the first strategy (along with transportation and land use planning).
- What are the important resilience data that we need to be monitoring and analyzing?
  - Some examples include sea level change data and projections. Overlaying those projections with potential projects could help to more strategically prioritize or fund projects.
    - Should we be talking specifically about resilience data in these strategies? Realistically, resilience will be evaluated using other mobility data as well.
- Is there a differentiation between permanent sea level rise and the impacts following major storm events (storm surge, etc.)?



- Yes, we are considering both as we are developing these strategy recommendations.
- Have we changed the meaning of the strategy by changing the term from "natural infrastructure" to "green infrastructure?" What if we used the term "nature based solutions"?
  - Either terminology is appropriate, but we need to ensure we are providing examples of what we mean by these terms. Are trails green infrastructure?
  - Why limit green infrastructure to vulnerable areas. It should be incorporated anywhere it is appropriate.
  - Green infrastructure should also be used for FDOT stormwater management...as water table comes up, and SLR effects outfalls, the functionality of these ponds may be compromised.
- Is technology included in these strategies? ITS infrastructure, for example, could benefit the resilience and adaptability of a system from a performance perspective. Automated/Connected Vehicles is another factor that should be considered?
  - The ACES Subcommittee has been talking extensively about strategies related to technology and how it can support resilience and how Florida's transportation system can be resilience to emerging technologies.
  - How do we ensure we can smoothly transition to new/upgraded technologies for a seamless experience for Florida's transportation customers?
  - How will we manage risk to outdated government regulations?
- There are no references to increasing resilience through how asset management is conducted or how operations and management is handled. Also, what about increasing resiliency by reducing levels of impact (i.e., reducing greenhouse gas emissions)?
- One of the biggest drivers of resilience are the developers. They are the ones leading land use decisions and need to be included in this discussion.
  - The FTP Steering Committee has several stakeholders that represent the developers so that perspective is well represented.

Jim identified two additional strategies based on feedback from the Resilience Subcommittee:

#### **Table 2. Proposed Additional Strategies**

#### **Proposed Additional Strategies**

- Ensure that vulnerable populations are considered fully in transportation resilience
   planning
- Consider both coastal and inland resilience in transportation planning



Participants had the following questions and comments:

- Should we be monitoring the economic trends related to resilience? For example, when lenders are no longer willing to offer 30 year mortgages in high risk areas or insurance companies are not offering insurance in high risk areas.
  - Changing real estate values is another economic factor to monitor.
- Use a stronger word than "consider" in the last proposed strategy.
- Referencing "coastal and inland" is most commonly associated with flooding and sea level rise but isn't necessarily related to other resilience factors. Consider removing this qualifier for a greater statewide emphasis.
- We may also want to consider the economic benefit (increase in private and public property value) of public resiliency/mitigation measures.
- May need to include the need to look at local or State laws that conflict with resiliency design.
   For example, state statute that grandfathers in private property owners "right" to drain their property into the transportation right-of -way.

### Gap Review

Jennifer asked participants to identify potential gaps that are not incorporated into the proposed strategy language. Participants had the following questions and comments:

- There is a lot of planning and strategizing but there are very few references to real time implementation to our existing challenges.
  - In the trucking industry, for example, there is an abundance of real time data of truck locations and routes. Is there an opportunity to leverage this data through partnerships with these companies to better understand how freight is moving on Florida's roadways and create a more adaptive system?
  - o Is there a way we can better incorporate performance metrics?
- Consider incorporating avoidance along with relocation?
  - Should this be incorporated separately as a standalone strategy or does it fit well enough with relocation?
- We should evaluate existing laws, rules, and procedures that are in conflict with resilience.
  - This is a current issue in District 6. Local governments and private property owners are having challenges with roadway raising projects because private property owners are having flooding issues because they can no longer drain onto the transportation right of way.



- Can we incorporate adaptive design as a factor in these strategies, rather than innovative design?
- There is a need to incorporate more forward looking language and make it less reactionary.
  - Is this covered well enough in the "design process, criteria, standards" strategy language or could we push it farther?
    - As a top line statement this is good. We could get more specific in the examples and additional detail about the strategy.
  - o Consider "integrate resilience data and projections"
    - Is FDOT adopting a statewide model that incorporates these resilience data? That could be somewhat controversial depending on the projections the state chooses to use and how the results impact decision making.
      - There is already legislation that is proposing this type of modeling and analysis.
- There are conflicts between the construction of elevated facilities and the public perception of them in many cases.
- Florida Statutes reference "resilience" as it is related to innovative design and projects and includes a reference to innovative financing to support a more adaptive development process.
- There are gaps in the education of governmental staff, etc. including for purposes of promoting coordinated and informed use of data across entities/incorporation of resilience themes into public outreach.
  - This has been a common theme in other subcommittees as well.
- It is important for the 2045 plan to position FDOT to say when/how they will/will not continue to provide/improve, etc. infrastructure in vulnerable areas, whether inland or coastal.
- How can the Department identify vulnerable infrastructure and land uses if we don't align our efforts with a particular (adopted) climate scenario considering time frame, intensity and duration of impact?
- This seems to assume a focus only on highways, but need to address other modes rail, ports, air.
- The use of projections is very important. During the PD&E process, we should be sure to incorporate realistic projections for things like sea level rise.
- There are multiple evacuation routes in the state that are flooded during high tidal events which could be very dangerous during extreme weather events. Has the state evaluated the emergency evacuation network to ensure the facilities are not compromised during these events?



- Consider changing to "Identify sustainable and stable funding sources"
- Important to have clear definitions of terms mitigation, adaptation, resilience, etc.
  - o The FTP will include a glossary and we will ensure these key terms are clearly defined.
- Should we include a strategy related to how we react and are nimble to unexpected changes and unique events?
- Remove "FDOT" from the strategies to imply that these strategies are for all of Florida and not just FDOT.
- Need to identify and resolve existing laws and regulation that do not support resilience

### **Greatest Gains Evaluation**

Jim introduced the Greatest Gains Evaluation exercise, which askes participants to identify the benefits, costs, and timeframe for each of the proposed strategies. Participants had the following questions and comments:

- The example statement could be interpreted in a variety of different ways, making it difficult to evaluate/score. Providing examples of benefits and costs could make it more concrete and easier to evaluate.
- Can we include an unknown option (zero)? Some of us are not familiar with a few of these potential strategies and aren't comfortable ranking them without additional background information or expertise related to the proposed strategy.
- Cost infers the financial cost. However, there are other costs associated with a strategy. Can we clarify that cost is also related to the potential positive/negative impacts of a project (community impacts)?
- We should clarify whether this includes construction. The cost of design and planning may be somewhat minimal but the result of the construction cost could be significant.
  - There is a cost of implementing the strategy but there are other costs we are already undertaking to keep a facility functional. Is there an evaluation of net cost we should consider? It may be smaller than we think.
- Uncomfortable seeing short term gains being prioritized over long-term gains. The weight of these should be equivalent.
  - Could we reframe this as "how sustainable is this strategy?"



- The FDOT Design Process is well established. It is easy to identify the timeframes associated with each of these strategies. However, policy changes and design changes are on much different timelines.
- Not sure we should prioritize short term gains over long term gains. Timeframe should be based on the life expectancy of a project and the disruptor or hazard being addressed.
- Is there something besides timeframe that we should consider when evaluating the impact of the strategies?
- Could we use the vulnerability reduction of a strategy as an evaluation point? (These are the benefits)
- Alternatively, we could just rank the strategies to demonstrate priority. When asked if the subcommittee would prefer to simply rank top strategies rather than trying to score based on criteria, multiple members affirmed preference for that approach and nobody opposed.
- Consider evaluating strategies based on performance measures.
- How does the state sea level rise task force play into this process?
  - This task force would be the ones developing the state's sea level rise projections.
- Can we add an open ended section at the end of each question so that respondents can describe the benefits, costs, and ranking rationale?

### Wrap Up

Jennifer asked participants if there were any other questions. Participants had the following questions and comments:

- Is there a planning process for painting overpasses or underpasses?
  - There is a process for community aesthetic features that is handled by the individual Districts. That process is still active and how we approve things like murals on overpasses/underpasses.

Jennifer reviewed the schedule going forward, referencing that the FTP Steering Committee will meet in Gainesville on March 26, 2020. She invited participants to attend TransPlex on April 20-22, 2020 in Orlando. Regional Workshops are scheduled for June and July of 2020.

She reminded everyone to take the surveys posted on the FTP website.

