

# FTP-SIS RESILIENCE SUBCOMMITTEE KICK-OFF MEETING

*presented to*

**FTP-SIS Resilience  
Subcommittee and  
Friends**

*presented by*

**Jennifer Carver, FDOT  
Dana Reiding, FDOT  
Chris Edmonston, FDOT**

*July 22, 2019*



# MEETING OBJECTIVES



Review the upcoming FTP-SIS Policy 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

# Welcome and Introductions



# Overview of FTP and Resilience Subcommittee

Dana Reiding, FDOT

Chris Edmonston, FDOT



# CURRENT FTP GOALS



***Safety  
and security***



***Agile, resilient, and  
quality transportation  
infrastructure***



***Efficient and  
reliable mobility***



***More transportation  
choices***



***Global economic  
competitiveness***



***Quality places to live,  
learn, work, and play***



***Environment and  
energy conservation***

# FTP GOALS & CROSS-CUTTING TOPICS

## Technology

- » Automated, connected, electric & shared vehicles
- » Transportation system management & operations
- » Big data
- » New materials & processes

## Resilience

- » Extreme weather events
- » Emergency evacuation & emergency response
- » Sea level rise, flooding
- » Economic or societal changes

## Statewide and Interregional

- » SIS, including modal facilities
- » Trade & logistics
- » Multi-use/ multi-modal facilities
- » Global, statewide, interregional connectivity

## Regional and Local

- » Urbanized, non-urbanized, rural
- » Congestion relief
- » Land use/ community planning
- » Regional visions



# FTP SUBCOMMITTEES

## ▮ 2 subcommittees

- » Automated, Connected, Electric, and Shared (ACES)
  - <http://www.floridatransportationplan.com/aces.htm>
- » Resilience
  - <http://www.floridatransportationplan.com/resilience.htm>

## ▮ Representatives of the steering committee organizations make up the members

## ▮ Others are able to become “friends” of the subcommittees

- » Receive updates on subcommittee activities
- » Attend and participate at meetings

## ▮ Become a friend of the subcommittees and stay engaged

# **FTP/SIS UPDATE**

- ▮ **FTP Kickoff in May 2019**
- ▮ **2019 Steering Committee Meetings**
  - » **May 9, Jacksonville, in conjunction with Long Range Visioning**
  - » **July 9-10, Bonita Springs, in conjunction with Floridians for Better Transportation**
  - » **October/November, location TBD**
- ▮ **Vision Element Completed by December 2019**
- ▮ **Policy Element Completed by December 2020**
- ▮ **SIS Policy Plan completed by 2021**



# Resilience Subcommittee Charge and Work Plan

Jennifer Carver, FDOT



# RESILIENCE SUBCOMMITTEE STRUCTURE

- ▶ Subcommittee of the FTP-SIS Steering Committee with a focus on transportation system resilience to environmental, community, and economic disruptors
- ▶ Includes “friends” of the subcommittee who are interested stakeholders/subject matter experts



# RESILIENCE SUBCOMMITTEE CHARGE

- ///▶ Discuss themes, trends, and planning implications of transportation system resilience in Florida
- ///▶ Identify policy-level objectives or strategies to address and/or maximize resilience to support the FTP goals and the SIS objectives
- ///▶ Review and provide input, as requested, on related plans and processes, including those from FDOT and other partners
- ///▶ Serve as transportation system resilience subject matter experts for the FTP-SIS Steering Committee and provide updates to the committee as needed

# RESILIENCE SUBCOMMITTEE WORK PLAN

## ▮ July 2019

- » Resilience Subcommittee Kick-off Meeting

## ▮ September 2019

- » Resilience Subcommittee Meeting (Web Conference)
  - Discuss long-range trends, challenges, and opportunities

## ▮ October 2019

- » Resilience Subcommittee Meeting (In Person)
  - Discuss opportunities to incorporate resilience into the FTP

## ▮ January 2020

- » Resilience Subcommittee Meeting (Web Conference)
  - Discuss potential objectives and strategies to address resilience in the FTP

## ▮ March 2020

- » Resilience Subcommittee Meeting (In Person)
  - Finalize recommendations for update of FTP Policy Element
  - Discuss how to implement strategies and identify innovative ways to make strategies actionable

# Overview of Transportation System Resilience

Jennifer Carver, FDOT

Chris Edmonston, FDOT





# FEDERAL AND STATE GUIDANCE

## Federal guidance on considering resilience, reliability, and risk:

### ▮ **USDOT policy statement:**

- » “USDOT shall integrate consideration of climate impacts and adaptation in to the planning, operations, policies, and programs of the DOT...”

### ▮ **Fixing America’s Surface Transportation (FAST) Act:**

- » Improve the **resiliency and reliability** of the transportation system and reduce or mitigate stormwater impacts
- » Reduce vulnerability of existing infrastructure to natural disasters



# FEDERAL AND STATE GUIDANCE

## State guidance:

- ▮ **Florida Transportation Plan (FTP): *Agile, Resilient, and Quality infrastructure***
- ▮ **Resilience (FTP): *The ability for the transportation system to absorb the consequences of disruptions, to reduce the impacts of disruptions and maintain mobility.***

# FDOT RESILIENCE INITIATIVES

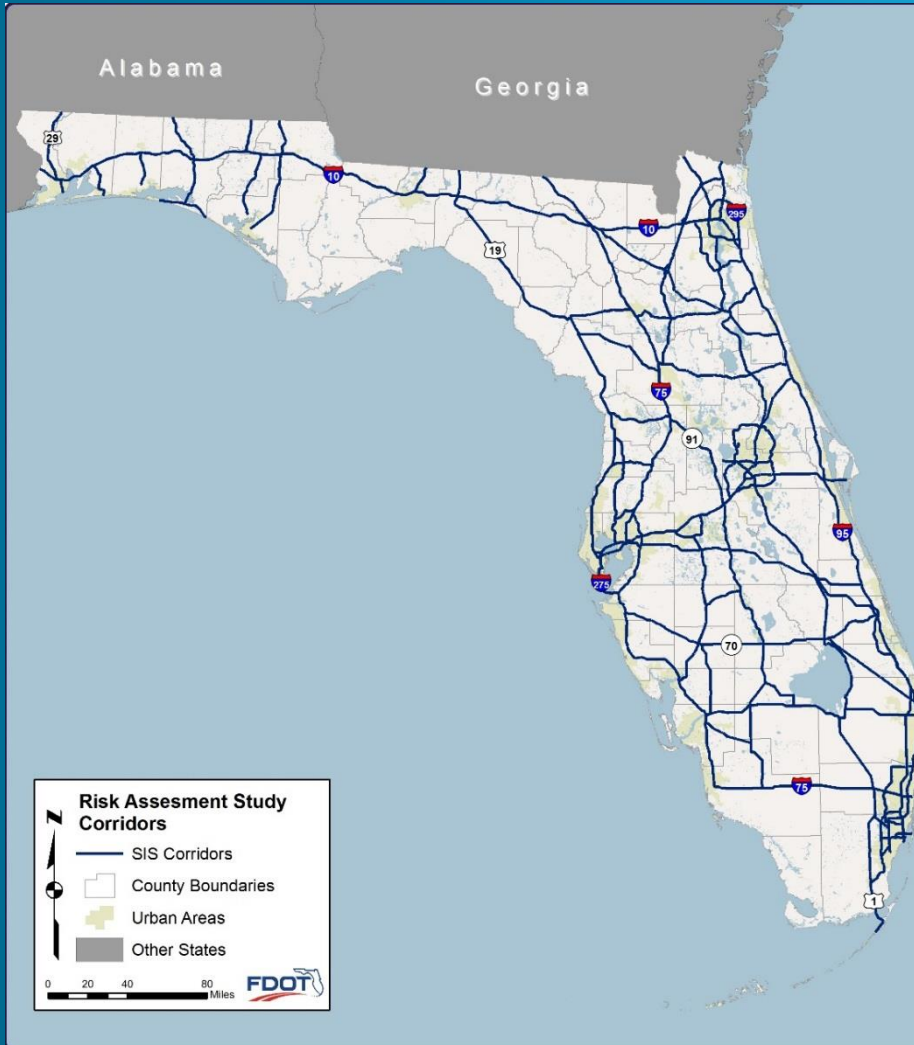
- ▮ **Research** – risk in transportation planning, resilience for vulnerable communities, resilience index
- ▮ **UF GeoPlan Sketch Planning Tool** – GIS-based tool to conduct planning level assessment of sea level rise impacts on transportation infrastructure
- ▮ **State Agency/Partner Coordination** – based on national scan, MPO outreach, etc.
- ▮ **Guidance for MPOs**
- ▮ **SIS Resilience Study**

# SEA LEVEL SCENARIO SKETCH PLANNING TOOL

- ▶ Assess potential impacts of sea level rise on transportation system
- ▶ On-line map viewer and ArcGIS sea level rise calculator
- ▶ Used by FDOT, MPOs, regional planning councils, local governments
- ▶ Next steps: update tool to reflect newer sea level rise projections and update training materials



# SIS RESILIENCY ANALYSIS





# Resilience Trends and Issues

Group Discussion



# WHAT'S TRENDING? HURRICANES AND FLOODING

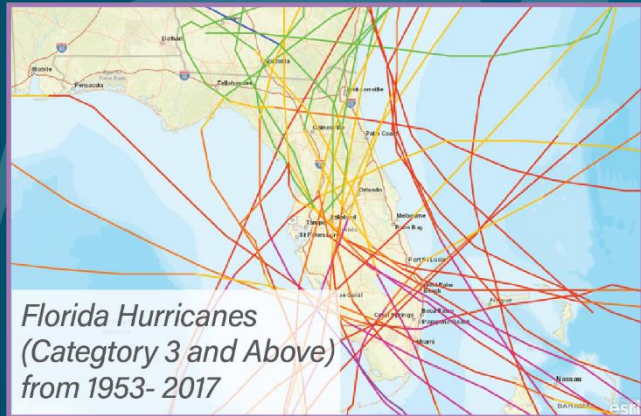
## HURRICANE MICHAEL

October 2018

**35** counties evacuated

**375,000** residents affected

**\$5.8 BILLION** in estimated insurance loss



## HURRICANE IRMA

September 2017

**54** counties evacuated

**6.8 MILLION** residents affected

**\$11.1 BILLION** in estimated insurance loss

Since 2000,

## TIDAL FLOODING

across Florida has

**INCREASED BY 352%,**

while sea levels have risen approximately

**3 INCHES**

**SEA LEVELS** in Southeast Florida  
are projected to **RISE** from 2018 levels  
by a median amount of **2.5 INCHES**  
by 2030 & **10.5 INCHES** by 2060

**3 OUT OF 10**

Florida regions have a  
**SHORTAGE OF  
SHELTER SPACE**  
for the general population

**9 REGIONS**

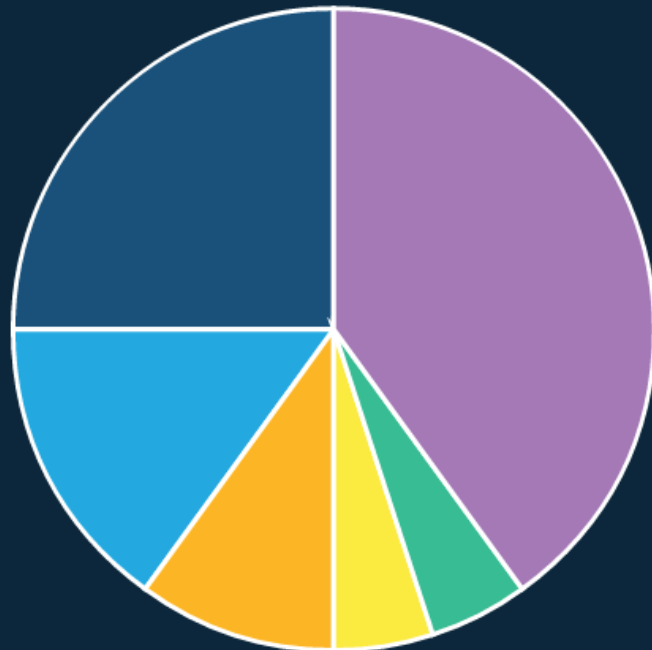
have a shortage of shelter space for  
**SPECIAL NEEDS  
POPULATIONS**





# WHAT'S TRENDING? ECONOMIC AND OTHER DISRUPTIONS

## SOURCES OF CONGESTION



The Florida Chamber Foundation's recession risk index projects a

**21%** risk of beginning a **RECESSION** in the next 9 months

### CURRENT U.S. EXPANSION

has lasted 118 months and counting, more than **TWICE THE AVERAGE TIME BETWEEN RECESSIONS** since World War II

## **GROUP DISCUSSION PROMPT**

**What resilience trends, issues, initiatives, and best practices should we consider into the Florida Transportation Plan update?**

# POLLEVERYWHERE SURVEY

- ▶ Works best from website – no registration required
- ▶ Use [www.pollev.com/FTP2045](http://www.pollev.com/FTP2045) to access the polling questions
- ▶ Respond to each question using your mobile device or laptop

# WHAT DO YOU HOPE TO ACHIEVE AS PART OF THE RESILIENCE SUBCOMMITTEE?

- ▶ Embrace planning for uncertainty
- ▶ Cost efficiency
- ▶ Ensure vulnerable communities are considered equitably.
- ▶ Execute a strategic plan for evacuation!
- ▶ Help our planning process become more adaptive.
- ▶ Consider regional differences and needs
- ▶ Remember the most vulnerable communities
- ▶ development of resilient adaptation strategies that will serve to avoid or minimize disruption to our transportation network during a disaster
- ▶ Policy calling for changes in the design Manual to recognize future need to raise road elevations.
- ▶ Consistent practices
- ▶ Identify ways to collaborate for better resilience
- ▶ Keeping the focus on long range planning rather than short term operations
- ▶ Design rest areas
- ▶ Encourage better planning in development to achieve resiliency.
- ▶ Impact on the future plans
- ▶ providing input as well as getting direction to help local governments understand how transportation infrastructure will be planning for resilience, flooding and sea level rise (i.e. curves and years, raising elevations, ); better planning for communities to allow for better resilience around and using more multimodal options for sustainability; green infrastructure
- ▶ Identify implementable resilience policies.
- ▶ Develop redundancies for quicker recovery
- ▶ SIS investment guidance
- ▶ Ideas to be more successful
- ▶ Expanded awareness of stakeholders, simultaneous planning efforts, and information sources.
- ▶ Help implement resiliency strategies
- ▶ Ensure that freight is considered as an integral conduit for supplies and recovery efforts in natural disasters, and that planning efforts are undertaken to ensure that the state is storm-hardened, ready to respond to the needs of their communities.
- ▶ Keep the issues of causes (mitigation) and consequences (adaptation) on the table for discussion throughout the FTP.
- ▶ As a friend of the subcommittee, I hope to bring awareness to climate adaptation issues internally to our agency and hopefully align future capital planning efforts to benefit everyone in the State.
- ▶ Include inland resilience strategies
- ▶ Ensure that adequate tools are being used
- ▶ Guidance for MPOs on resiliency.
- ▶ Faster recovery from hurricanes
- ▶ align local EV charging infrastructure strategies
- ▶ The goal of providing meaningful input to planning for a resilient transportation network throughout Florida.
- ▶ Better mobility
- ▶ SIS strategies
- ▶ Ensure sea level rise projections and design criteria are integrated in planning, budgeting and design process
- ▶ Identify ways to make our transportation system more adaptive



# WHAT INFORMATION DO WE NEED FOR THE FLORIDA TRANSPORTATION PLAN?

- ▮ How the plan will be used to guide decision making
- ▮ All 67 counties plans on this issue
- ▮ Involve the new state Chief Resilience Officer
- ▮ Projected funding -- federal, state and local -- for transportation over the course of the plan.
- ▮ Identify which agencies we can interrelate our goals with
- ▮ Budget estimates of SLR/flood vulnerability retrofits for SIS.
- ▮ Demographic projections
- ▮ Consolidated future capital improvements data base / map and timeline from all LRTPs
- ▮ Statewide Asset Vulnerability Assessment - this type of analysis has been done in specific locations/regions in Florida, but no comprehensive vulnerability assessment of FDOT's assets has yet occurred.
- ▮ Insight into direction being provided by Director on sea level rise adaptation
- ▮ Best practices
- ▮ More information on other dimensions of resilience: economic, operational, etc.
- ▮ Understanding of current plans
- ▮ Yes, unified SLR projections
- ▮ Up to date roadway characteristics data (service volume, LOS)
- ▮ How are transportation facilities being designed to adapt to storm surge and sea level rise
- ▮ Best practices from other State FTPs
- ▮ vulnerability data; SLR projection curves/years for the FDOT to use; green infrastructure adaptation strategies;
- ▮ Federal funding
- ▮ Examples from other countries and states
- ▮ Establish Resilience FTP Measures
- ▮ Inventory of what has been accomplished to date.
- ▮ Employment center locations
- ▮ Southeast Florida Unified Sea Level Rise Projection
- ▮ Combine resources & plans that already exist
- ▮ brochures that explain the process -- in an easy to read and understand format
- ▮ A summary of all the current ongoing plans
- ▮ There are tons of potential resilience topics. Which ones are the most critical/important?
- ▮ Budget

# Wrap up and Next Steps





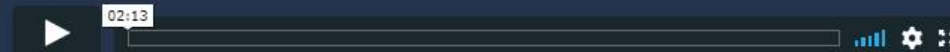


## Florida Transportation Plan (FTP)



- Summary
- Elements of the FTP
- Long Range Visioning
- Steering Committee
  - ACES Subcommittee*
  - Resilience Subcommittee*
- Campaigns
  - Technology*
  - Resilience*
  - Statewide/Interregional*
  - Regional/Local*
- Collaboration
- Resources
  - Transportation Planning Studies
  - Performance Snapshot

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