

# RESILIENCY SUBJECT BRIEF



FLORIDA DEPARTMENT OF  
TRANSPORTATION

## What is Resiliency?

Resiliency is the ability of the transportation system to adapt to changing conditions and prepare for, withstand, and recover from disruptions. Disruptions are events and conditions that are often characterized as **shocks** and **stresses**.

## Why is Planning for Resiliency Important?

Natural hazards, cyberattacks, and other events can have significant and unexpected impacts on Florida. Simultaneously, trends such as sea level rise and global economic shifts can lead to progressive challenges. These events and trends can result in unanticipated transportation system disruptions and increasing constraints on infrastructure, impeding access to reliable mobility. The impacts of these events and trends on the lives of residents and visitors and the flow of business and trade can be extensive.

It is critical to prepare Florida's transportation system to be adaptive in the face of shocks and stresses. Planning for resiliency will help leverage FDOT's understanding of potential hazards to mitigate risk, make wiser investment decisions, and provide more reliable transportation.

## What is FDOT's Role in Resiliency?

 **Set policy direction** for resiliency of the State's transportation infrastructure. [FDOT Policy 000-525-053](#) provides the foundation for this direction.

 **Identify risks**, particularly related to sea level rise, flooding, and storm events, to assess potential impacts and employ strategies to avoid, mitigate, or eliminate impacts.

 **Collaborate** with the appropriate agencies and organizations for information sharing and alignment of resiliency strategies.

 **Implement resiliency in transportation** through the Department's long-range and modal plans; work program; asset management plans; research efforts; and internal manuals, tools, guidelines, procedures, and related documents.

## Trends to Consider



In 2017 a **CYBERATTACK** At CSX's Jacksonville Headquarters **SHUT DOWN** Railroad Signaling, Dispatching, & Other Systems across 23 states

Nationally, the **TOTAL ANNUAL DAMAGES FROM TEMPERATURE AND PRECIPITATION-RELATED** damages to paved roads are estimated to be as much as **\$20 BILLION**

Florida is among the **TOP 10** states most impacted by **WILDFIRES**

## What is FDOT Doing to Advance Resiliency?

- **Incorporating resiliency** in statewide planning efforts including the *Florida Transportation Plan*, *Strategic Intermodal System (SIS) Policy Plan*, *Freight Mobility and Trade Plan*, and *Transportation Asset Management Plan*.
- **Providing resources** such as the Resilience Quick Guide for incorporating resiliency into MPO long range plans and the Resilience Primer that establishes a process framework, documents industry best practices, and provides a resiliency toolbox.
- **Laying the groundwork** for a SIS Resilience Action Plan as part of phase II of a vulnerability assessment for Florida's high priority transportation facilities.
- **Developing and coordinating training** for the [Sea Level Scenario Sketch Planning Tool](#) to aid the assessment of potential long-range sea level rise impacts on transportation infrastructure.
- **Designing for rising sea levels and tidal issues** by analyzing projected sea levels and tides in the design of bridge replacement projects and incorporating closed drainage system upgrades and backflow devices into coastal projects.
- **Supporting research activities** that provide a better understanding of the impacts and potential responses to sea level rise, tidal flooding, and other stresses and shocks.
- **Managing infrastructure assets** like roadway pavements through analysis and implementation of methods that address environmental conditions such as extreme heat.
- **Safeguarding information technology** through an agency-wide team established to ensure the protection of critical data and network resources from cyberattacks and other threats.

## What are the Requirements for Resiliency?

There are certain provisions in law related to transportation resiliency. For example, Federal Regulation 23 CFR 450.306(b) (9) requires MPOs, in cooperation with the State and public transportation operators, to "improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation" in the long range transportation planning process. As a result, Florida's MPOs consider resiliency as a planning factor when assessing projects, strategies, and services during the development of their Long Range Transportation Plans.

There are also certain policies that direct the actions of agencies. As noted above, FDOT Policy 000-525-053 provides that type of direction for the Department. In addition, FHWA Order 5520 directs FHWA to integrate consideration of climate change and extreme weather event impacts and adaptation responses into the delivery and stewardship of the Federal-aid and Federal Lands Highway programs. This includes encouraging state DOTs and other agencies to develop, prioritize, implement and evaluate risk-based and cost-effective strategies to minimize climate and extreme weather risks and protect critical infrastructure using the best available science, technology, and information.



## Where Can I Learn More ?

### Federal

#### [Federal Highway Administration](#)

Provides guidance and framework to support resilience from environmental conditions that threaten transportation infrastructure.

#### [National Oceanic and Atmospheric Administration](#)

Provides information on NOAA's resilience implementation and technical assistance programs.

#### [U.S. Army Corps of Engineers](#)

Provides information on community resilience, natural hazards, and others.

#### [U.S. Economic Development Administration](#)

Provides examples of economic resilience initiatives and guidance to develop plans such as locally-based, regionally driven Comprehensive Economic Development Strategies.

### State

#### [Florida Department of Economic Opportunity](#)

Provides information on how communities can use adaptation planning to prepare for coastal flooding and sea level rise.

#### [Florida Department of Environmental Protection](#)

Provides information on grants and other resiliency tools, with focus on coastal communities.

#### [Florida Department of Transportation: Florida Transportation Plan](#)

Provides information and resource links on resilience and transportation.



Office of Policy Planning

✉ [planning@dot.state.fl.us](mailto:planning@dot.state.fl.us)

☎ 850.414.4800