

# **Integrating Resiliency into the Transportation Planning Process: Current State of the Practice for Florida MPOs Resiliency Efforts**

**FDOT Contract BDV31-932-10  
May 2022**

## **Executive Summary**

To better prepare for and adapt to worsening extreme weather events and climate stressors, transportation planning and infrastructure design must account for changing conditions caused by climate change. To address these concerns, the Fixing America's Surface Transportation (FAST) Act in 2015 brought requirements for transportation agencies to consider resiliency in their planning processes. Because resiliency is still an emerging topic for many agencies, peer learning and sharing of experiences is an important part of increasing the resiliency of Florida's transportation system.

This report, compiled by the University of Florida GeoPlan Center, reviews the current state of practice for how Florida MPOs are integrating resiliency in their long range planning processes to highlight the needs and opportunities for advancing transportation resiliency in the State. This report includes (1) a summary of how and why resiliency is integrated in the 2045 Long Range Transportation Plans (LRTPs), (2) notable MPO resiliency practices, (3) major challenges in addressing resiliency, and (4) opportunities for advancing resiliency planning in Florida. This report is intended to assist transportation planners by documenting notable practices, sharing information, and identifying priority needs.

The Research Team ("the Team") reviewed the 2045 LRTPs of Florida's 27 MPOs to categorize how resiliency was integrated in the Goals and Objectives, Performance Measures and Evaluation Criteria, and Resiliency Strategies. The Team also reviewed vulnerability assessments and related studies to highlight specific data and tools used and needed for understanding local and regional impacts. Stakeholder interviews with 19 MPOs were conducted to understand each organization's history of resiliency activities, motivations, and challenges. As MPOs begin the 2050 LRTP cycle, this report and the categorization provided here allows for MPOs to quickly find examples of how other MPOs are addressing resiliency in these plan components. Below are some of the highlights from this project.

### **Review of Long Range Transportation Plans and Vulnerability Assessments**

From the review of the 2045 LRTPs, the Team found that all MPOs addressed resiliency in their goals and objectives. Some MPOs aligned resiliency with existing goals, while others developed

resiliency-specific goals or objectives. About 40% of Florida's MPOs adopted resiliency-related evaluation criteria in their project screening or prioritization. About one-third of MPOs incorporated resiliency into their performance measures or targets.

Over half of Florida's MPOs have conducted or plan to conduct a vulnerability assessment. Only coastal MPOs, which face flooding threats from rising sea levels, storm surge, and nuisance flooding, have completed vulnerability assessments. Future inland flooding impacts and demographics shifts (inland migration) are emerging areas of climate resiliency that are in need of addressing. Conducting an independent climate change vulnerability assessment may not be feasible for all MPOs due to the limited agency resources, but some can leverage the results of existing local studies and utilize online tools for assessing impacts. The passage of the Bipartisan Infrastructure Law (BIL) in 2021 provides funding opportunities and incentives for MPOs to conduct vulnerability assessments and resiliency planning efforts.

### **Notable Practices**

The Team found that MPOs were resourceful in pursuing resiliency issues, resulting in successes towards advancing transportation resiliency. Notable practices by Florida MPOs include:

- **Participation with local resiliency steering committees and regional climate collaboratives** to coordinate on climate and hazard mitigation issues and learn about strategies for adaptation and mitigation to inform long range planning efforts.
- **Utilizing resources and outputs from local studies and vulnerability assessments** to inform the long range planning process.
- **Engaging stakeholders.** One MPO convened a Transportation Resilience Advisory Group to give input on resiliency projects and issues. Another MPO developed a Resilience Guidance Paper to inform staff and engage committee members on resiliency.
- **Leveraging grant funding** to support local and regional vulnerability assessments, and training workshops, and capacity building.
- **Developing resiliency funding strategies.** A few MPOs are planning to or have developed resiliency-specific funds to address resiliency needs.
- **Focus on maintenance and prevention.** While not always called resiliency strategies, drainage improvements and stormwater maintenance contribute towards flood risk reduction and increase transportation systems resiliency.
- **Highlighting equity concerns in resiliency.** Some MPOs are addressing and highlighting social equity concerns within long range plans and resiliency planning.
- **Developing long-term planning frameworks.** A few MPOs are developing planning frameworks and master plans to guide adaptation planning and implementation. These

plans offer a roadmap for identifying and implementing adaptation and mitigation strategies, defining interagency coordination and roles, and institutionalizing resiliency through the planning process.

## Challenges

MPOs cited a number of challenges in their resiliency planning efforts, including:

- **Funding challenges**, including a lack of funding to support studies, mismatch between resiliency needs and eligible funding sources, and competing funding priorities.
- **Institutional challenges**, such as lack of staff capacity, limited implementation roles, and coordination of resiliency strategies throughout project development.
- **Lack of a centralized repository for resiliency data** and the **need for decision support tools** to help with cost-benefit analyses and project-level screening of impacts.
- **Lack of public support and leadership** for engaging in climate change planning and tension between existing and future needs.
- **Lack of guidance** to address uncertainty and long-time horizons, choose climate scenarios, and select appropriate adaptation and mitigation strategies.

## Opportunities

Many opportunities exist to advance transportation resiliency planning in Florida. Below are actionable opportunities that can be pursued by MPOs, the Florida Department of Transportation (FDOT), and partnering organizations.

- **Leverage PROTECT Program funding** for resiliency planning (developing resilience plans, vulnerability assessments, data, tools), constructing resilience improvements, improving evacuation routes, and protecting at-risk coastal infrastructure.
- **Continue to build capacity and share information.** Offer additional peer exchanges, cultivate resiliency champions, and develop a resiliency contact list of MPO staff.
- **Increase access and centralization of resiliency data** using FDOT's Environmental Screening Tool and development of other curated portals.
- **Support public engagement on climate change.** Show local impacts, examples, and trends when discussing climate change to build a longer memory of local events.
- **Develop guidance to support resiliency planning needs**, such as choosing appropriate climate scenarios, dealing with uncertainty, and selecting adaptation and mitigation strategies to address specific types of vulnerabilities.