

# MPO Resilience Peer Exchange: Resilience Resources and Examples

## Florida Metropolitan Planning Organizations

The following table highlights resilience efforts conducted by Florida Metropolitan Planning Organizations.

<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
<a href="#">Bay County TPO</a>	<a href="#">Bay County TPO 2045 Long Range Transportation Plan</a>	Comprehensive economic development strategy “Environmental Quality, Protection and Resilience”
<a href="#">Broward MPO</a>	<a href="#">Commitment 2045 Metropolitan Transportation Plan</a>	Resiliency objective and performance measures with targets under Strengthen Communities goal.  Determine resiliency improvements for various state and non-state roads.
	<a href="#">South Florida Climate Change Vulnerability Assessment and Adaptation Pilot Project</a>	Determine the impacts of exposure to sea level rise and flooding for the regional transportation network for the four-county (Palm Beach, Broward, Miami-Dade, Monroe) South Florida region.
	<a href="#">Extreme Weather and Climate Change Risk to the Transportation System in Broward County, Florida</a>	Focus on resiliency for Broward County arterials and major collectors.  Resiliency covered in the “Next Steps and Actions” chapter.
	<a href="#">All Hazards Recovery Training</a>	The purpose of this training was to equip the region to develop a comprehensive emergency recovery plan that maximizes the use of transit, social media, TDM strategies, and ITS technologies.
<a href="#">Capital Region Transportation Planning Agency (CRTPA)</a>	<a href="#">CRTPA Connections 2040 Regional Mobility Plan Chapter 7</a>	CRPTA continues to monitor emerging trends and programs

<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
<a href="#">Charlotte County-Punta Gorda MPO</a>	<a href="#">Charlotte County-Punta Gorda 2040 Long Range Transportation Plan</a>	<p>The goals of the Charlotte County-Punta Gorda 2040 LRTP are as follows:</p> <ul style="list-style-type: none"> <li>• Ensure efficient travel for all modes of transportation</li> <li>• Expand transportation choices for everywhere</li> <li>• Preserve natural spaces while promoting a health community</li> <li>• Promote vibrant centers and the local economy</li> <li>• Enhance safety and security for everyone</li> </ul>
	<a href="#">Route to 2045 Charlotte County-Punta Gorda MPO LRTP</a>	
<a href="#">Collier MPO</a>	<a href="#">Collier MPO 2045 LRTP</a>	<p>Consider Climate Change Vulnerability and Risk in Transportation Decision Making</p>
<a href="#">Forward Pinellas</a>	<a href="#">Advantage Pinellas 2045 LRTP</a>	<p>The components of the Advantage Pinellas 2045 LRTP related to resilience primarily include <a href="#">Resilient Tampa Bay: Transportation project</a>, completed in partnership with other MPOs and partners in the region.</p> <p>For additional information please see the <a href="#">Resilient Tampa Bay: Transportation Pilot Program Technical Memorandum</a> and the <a href="#">Resilient Tampa Bay: Transportation Study Receives Excellence in Regional Transportation Award blog post</a>.</p>
	<p>Criteria used to select priority projects for funding</p>	<p>Forward Pinellas has also built resilience into the <a href="#">criteria used to select priority projects for funding</a> (item 5D).</p>
	<p>Countywide land use planning</p>	<p>Resilience is reflected in the <a href="#">Countywide Plan and Countywide Strategies</a> through the Coastal High Hazard Area.</p>

<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
<a href="#">Gainesville MTPO</a>	<a href="#">The Gainesville Metropolitan TPO List of Priority Projects Fiscal Years 2021/22 – 2024/25</a>	The metropolitan transportation planning process shall provide for consideration of projects and strategies that will improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
<a href="#">Hernando/Citrus MPO</a>	<a href="#">Hernando/Citrus MPO LRTP</a>	The Hernando/Citrus MPO will work with the coalition and other partners such as FDOT, local public works departments, and emergency planning agencies, to assist in strengthening the transportation system’s resiliency to man-made and natural disasters.
<a href="#">Hillsborough</a>	<a href="#">It’s TIME Hillsborough 2045 LRTP</a>	Establish an investment program to improve the resilience and reliability of the transportation system and reduce or mitigate the stormwater impacts of surface transportation.
	<a href="#">The Resilient Tampa Bay Transportation Pilot</a>  Also described at:  <a href="#">FHWA Resilience &amp; Durability to Extreme Weather Pilot Program</a>	One of eleven FHWA Resilience and Durability to Extreme Weather Pilot Program projects to improve transportation infrastructure by identifying vulnerable roads in the tri-county Tampa Bay TMA and estimating the per-mile costs of appropriate mitigation and hardening treatments. The study also forecast the economic impact, in a post-disaster scenario, of not making the improvements.
	<a href="#">Hillsborough MPO Transportation Vulnerability Assessment Pilot Project</a>	The predecessor of the Resilient Tampa Bay study, five years earlier, this study was a similar analysis for Hillsborough County alone, and informed the 2040 LRTP.
	<a href="#">FHWA Scenario Planning Peer Exchange</a>	Presented on integrating vulnerability assessment into scenario planning, in a 2016 peer exchange with the Hampton Roads, Virginia TPO.
<a href="#">Indian River County MPO</a>	<a href="#">2040 Indian River County MPO LRTP</a>	Increase resiliency of infrastructure for extreme weather and climate trends
<a href="#">Lake-Sumter MPO</a>	<a href="#">Lake Sumter MPO Transportation Improvement Program</a>	Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation

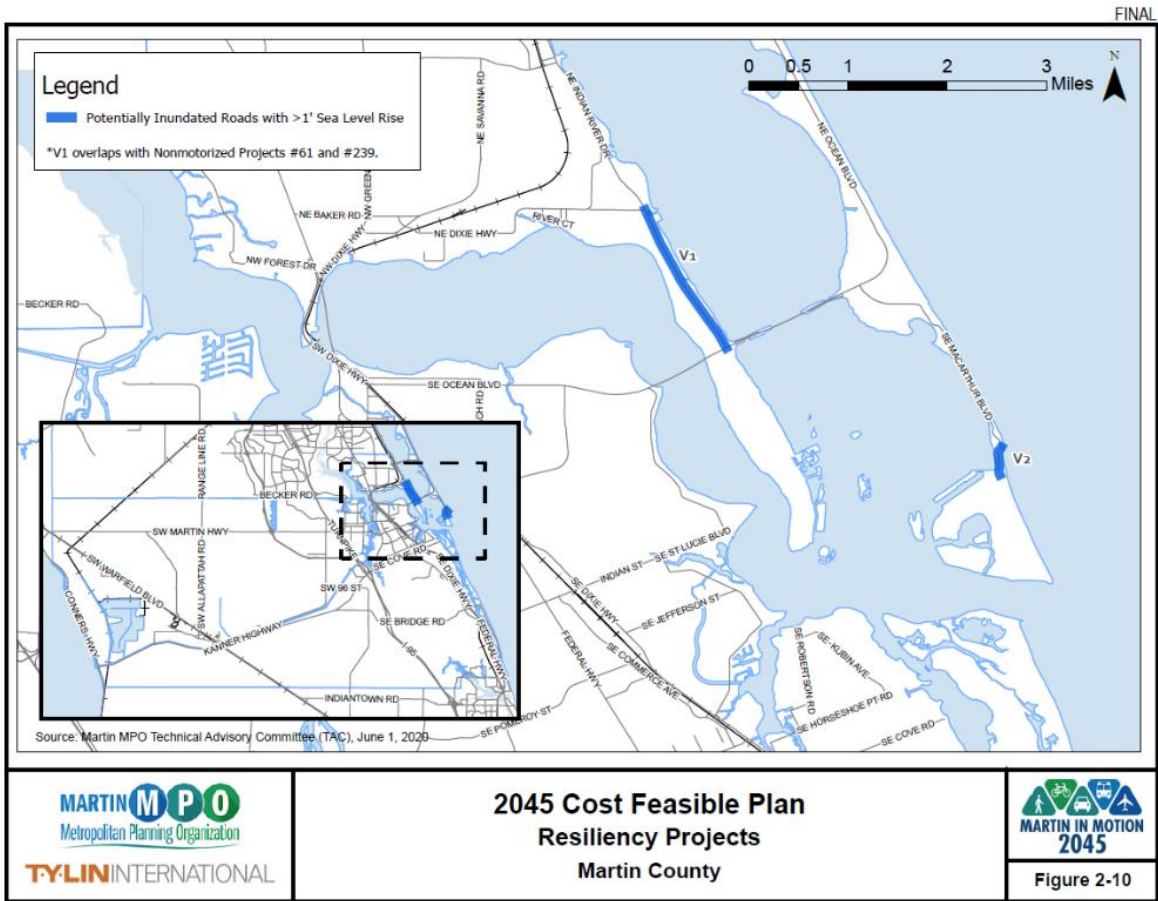
<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
<a href="#">Martin MPO</a>	Martin MPO’s 2045 Cost Feasible Plan Resiliency Projects Map	The roads identified on the Resiliency Projects Map have a Federal Functional Classification and are identified on the County’s preliminary vulnerability map as having the potential to become inundated with more than a foot of water in the future due to sea level rise: <ul style="list-style-type: none"> <li>• N Sewalls Point Road from SR-A1A (NE Ocean Boulevard) to SE Palmer Street</li> <li>• SE MacArthur Boulevard from SE South Marina Way to approximately 1,500 feet north</li> </ul>
	<a href="#">Moving Martin Forward 2040 L RTP</a>	Create goals that were focused on outcomes further supplemented by measurable performance measures
<a href="#">MetroPlan Orlando</a>	<a href="#">MetroPlan 2045 Long Range Transportation Plan</a>	<p>Resiliency is built in throughout the 2045 planning process starting with the goals and objectives and continuing through the project prioritization. Programmatic resiliency strategies and implementation responsibilities will be established to guide the development of new transportation infrastructure.</p> <p>MetroPlan Orlando has chosen to integrate resiliency throughout the Safety &amp; Security, Reliability &amp; Performance, Access &amp; Connectivity, Health &amp; Environment and Investment &amp; Economy goals and objectives.</p> <p>Planning for resiliency begins with understanding potential disruptions to the transportation network and the 2045 MTP is using scenario planning to identify potential risks and how they can impact the region. MetroPlan has chosen six key drivers of change for the focus of the plan: Population, Economy, Visitation, Development &amp; Land Use, Technology, and Climate.</p> <p>The 2045 MTP will be evaluating needs and opportunities based on a comprehensive set of performance measures to identify mobility needs resulting in a multimodal approach. Projects identified in the needs plan will be prioritized based on the full range of goals and objectives.</p>

<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
		Several tools will be used to obtain qualitative data in order to compare projects with the established performance indicators.
<a href="#"><u>Miami-Dade</u></a>	<a href="#"><u>South Florida Climate Change Vulnerability Assessment and Adaptation Pilot Project</u></a>	The study used exposure, sensitivity, and adaptive capacity as the three indicators. The tool was used to determine the impacts of exposure to sea level rise and flooding for each highway segment.
	<a href="#"><u>Miami-Dade 2045 LRTP</u></a>	Improve and Preserve the Existing Transportation System
<a href="#"><u>North Florida TPO</u></a>	<a href="#"><u>North Florida TPO 2045 PathForward LRTP</u></a>	Create reliable and resilient multimodal infrastructure
<a href="#"><u>Okaloosa-Walton TPO</u></a>	<a href="#"><u>2040 Long Range Transportation Plan</u></a>	
<a href="#"><u>Palm Beach TPA</u></a>	<a href="#"><u>South Florida Climate Change Vulnerability Assessment and Adaptation Pilot Project</u></a>	The study used exposure, sensitivity, and adaptive capacity as the three indicators. The tool was used to determine the impacts of exposure to sea level rise and flooding for each highway segment.
	<a href="#"><u>Palm Beach TPA 2045 LRTP</u></a>	Identify the percentage of federal aid eligible mileage susceptible to inundation by 1.2-foot sea level rise and historic storm surge. Record the 1% chance of annual flooding.
<a href="#"><u>Pasco County MPO</u></a>	<a href="#"><u>Resilient PASCO Vulnerability Assessment and Sustainability &amp; Resiliency Plan</u></a>	The proposed scope of work has two major phases that address community lifelines from a vulnerability, sustainability and resiliency perspective.
	<a href="#"><u>Mobility 2040 Long Range Transportation Plan</u></a>	
<a href="#"><u>River to Sea</u></a>	<a href="#"><u>Sea Level Rise Vulnerability Assessment</u></a>	Increase the ability of local and regional stakeholders to implement resiliency and climate adaptation strategies.

<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
	<a href="#">Connect 2045 LRTP</a>	Used the data from the Sea Level Rise Vulnerability Assessment, to evaluate a “Resiliency Scenario”.
	<a href="#">Resilient Volusia County</a>	<p>To build resiliency against flooding and sea level rise, the Volusia County Office of Emergency Management partnered with East Central Florida Regional Planning Council (ECFRPC), Florida Department of Transportation, the River to Sea Transportation Planning Organization, and UF Geoplan Center to assess impacts.</p> <p>The study also looked at the different approaches Volusia can use to build resiliency including retreat, accommodate, and protect. Resources, along with recommendations for implementing new data and strategies, policies and information into existing plans throughout the county were discussed. Emphasis was placed on Emergency Preparedness, Land-Use, and Transportation.</p>
	<a href="#">Resilient Flagler County</a>	<p>To build resiliency against flooding and sea level rise, the Flagler County Office of Emergency Management partnered with North East Florida Regional Council (NEFRC), the River to Sea Transportation Planning Organization, and UF Geoplan Center to assess impacts. Using the FDOT Sea Level Scenario Sketch Planning Tool along with FEMA’s Hazus-MH software, impacts of sea level rise, combined with a 100-year-storm were modeled.</p> <p>Using these models and Flagler County data, critical assets and facilities were assessed to determine potential impacts during such a 100-year storm event with increased coastal flooding. Assessments also included significant evacuation routes and impacts to County facilities. After analyzing the data Flagler can now begin to prepare for the future impacts of a 100- year storm as sea levels rise. The study also looked at the different approaches Flagler can use to build</p>

<u>M/TPO</u>	<u>Resource</u>	<u>Objective</u>
	<a href="#">East Central Florida Regional Resiliency Action Plan</a>	resiliency including retreat, accommodate, and protect.  The Resiliency Action Plan seeks to increase capacity of regional stakeholders resiliency and climate adaptation capacity, engage stakeholders and obtain support for adaptation of the plan.
<a href="#">Space Coast TPO</a>	<a href="#">Space Coast TPO 2045 LRTP</a>	
<a href="#">St. Lucie TPO</a>	<a href="#">St. Lucie TPO TIP 2019/20 – 2023/24</a>	Improve the transportation system’s stability/resiliency in the event of climate change, emergencies or disasters.
	Sea Level Rise Mapping Study	Identify transportation infrastructure exposed to current and future flooding due to sea level rise and reduce economic impact of major storms.
	2040 LRTP Performance Measures and Resiliency Performance Measures	Integrate Resiliency into long range transportation plan (LRTP) and develop performance measures to monitor resiliency effort through long range transportation planning.
	Coordination with St. Lucie County Environmental Resources Department on climate resiliency	Coordinate with local agencies to address climate change and to improve the climate adaptation/resiliency and reduce natural disaster risk.

### Martin MPO's 2045 Cost Feasible Plan Resiliency Projects Map





## Regional Resilience Organizations/Collaboratives

The following table highlights regional resilience organizations and collaboratives.

<u>Agency</u>	<u>Objective</u>
<a href="#">Southeast Florida Regional Climate Compact</a>	The Regional Climate Action Plan (RCAP) provides a set of recommendations, guidelines for implementation, and shared best practices for local entities to act in-line with the regional agenda.
<a href="#">Tampa Bay Regional Resiliency Coalition</a>	The Tampa Bay Regional Resiliency Coalition provides information and recommendations to ensure the region's transportation system meets the near and long term functional, economic, and quality of life goals of Tampa Bay's residents, businesses, and visitors in the face of weather and climate changes.
<a href="#">East Central Florida Regional Resilience Collaborative</a>	The East Central Florida Regional Resilience Collaborative is a group of stakeholders across the region to develop a structure and framework for a regional resilience collaborative.
<a href="#">Northeast Florida Regional Council</a>	The Northeast Florida Regional Council seeks to continue to push regional conversations about resilience forward.

## Peer Organizations Outside Florida

The following table highlights resilience efforts conducted by peer organizations outside Florida.

<u>Organization</u>	<u>Document</u>	<u>Objective</u>
<a href="#">Hampton Roads TPO</a>	<a href="#">Hampton Roads 2045 LRTP</a>  <a href="#">Project Prioritization</a>	The plan is incorporating scenario planning to consider how changing factors such as sea level rise could affect connectivity and resiliency across the region. Recently updated Project Prioritization Tool used to evaluate and prioritize candidate projects includes some resiliency measures.
	<a href="#">Sea Level Rise Planning Efforts</a>	Efficiency, Resiliency, & Innovation: Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
	<a href="#">Interactive Map</a>	Potential Submergence of Roadways by 2045
	<a href="#">HRPDC Coastal Resilience Planning Efforts</a>	The Hampton Roads Planning District Commission (sister agency to the HRTPO) Coastal Resiliency Program activities addresses regional challenges related to flooding and sea level rise.
	<a href="#">Hampton Roads Resilience Project Dashboard</a>	
<a href="#">San Francisco Bay Area MTC</a>	<a href="#">Plan Bay Area 2040</a>	The Environmental Impact Report (EIR) for Plan Bay Area 2040 discloses potential environmental impacts and recommended mitigation measures of implementing the plan.
	<a href="#">Plan Bay Area 2050</a>	

Organization	Document	Objective
	<a href="#">SR 37 Transportation and Sea Level Rise Corridor Improvement Plan</a>	<p>MTC prepared a corridor plan for State Route 37, which includes an assessment of sea level rise in addition to congestion. The roadway currently experiences periodic closures because of flooding and may experience permanent flooding towards the end of the century. The corridor study resulted in a phased adaptation approach with short-term (protect), medium-term (protect/accommodate), and long-term (accommodate) approaches</p>
	<a href="#">Futures Final Report: Resilient and Equitable Strategies for the Bay Area's Future</a>	<p>The goal of Futures Planning was not to pick a preferred Future but rather to use three distinct Futures with a variety of different conditions as backdrops to test the resilience of different strategies. The key question in the Futures Planning process was, “which strategies that could be advanced by local jurisdictions, regional agencies or the state in the coming decades are effective under a variety of uncertain conditions?”</p>
<a href="#">Dover/Kent County MPO / DeIDOT</a>	<a href="#">DeIDOT Project Prioritization Criteria</a>	<p>DeIDOT created a prioritization system in which each resilience strategy is assigned a score of 1-3 across four categories: Enabler (of another strategy), Impact, Cost, and Ease. Based on the outcome of the prioritization, DeIDOT developed three tiers of priority, which eventually contributed to their development of an implementation timeline.</p>
<a href="#">North Jersey Transportation Planning Authority (NJTPA)</a>	<a href="#">Plan 2045 Connecting North Jersey</a>	<p>The plan includes the resilient strategy which strives to adapt infrastructure to be resilient to extreme weather events and to the impacts of climate change.</p>

Organization	Document	Objective
<a href="#">Fayette Raleigh MPO</a>	<a href="#">Extreme Weather At-Risk Roadways System</a>	Developed an Extreme Weather At-Risk Roadways System report, in which they assessed threats to their system from extreme weather events with the intent of informing the scope of projects and programs in the region’s long-range transportation plan, 2040 Regional Transportation Plan. Within this assessment, FRMPO identified and mapped areas of concern, such as roadway segments that are vulnerable to flooding during potential future extreme weather events.
<a href="#">Houston-Galveston Area Council</a>	<a href="#">Resiliency and Durability Pilot</a>	The Houston-Galveston Area Council is currently conducting a Resilience and Durability to Extreme Weather pilot. H-GAC is partnering with TxDOT, Harris County, and other local governments to reduce flood risk on critical regional and local highways by developing detailed recommendations to improve resiliency of transportation infrastructure.
	<a href="#">Regional Resilience Tool</a>	
<a href="#">Southern California Association of Governments</a>	<a href="#">2012-2035 Regional Transportation Plan (RTP)</a>	RTP identifies \$68B to address preservation, operation, and resilience needs of the state highway system, and also embeds \$6B to implement and accelerate strategies that will support transportation system resilience.
<a href="#">Boston Region MPO</a>	<a href="#">Destination 2040 LRTP of the Boston Region Metropolitan Planning Organization</a>	Project evaluation criteria include ratings for how well project design improves the region’s LRTP in areas that are flood-prone or at risk to storm surge and sea level rise.
	<a href="#">All Hazards Planning</a>	Uses an All-Hazards Planning Application tool that maps the transportation network and TIP projects in relation to natural hazard zones to determine if proposed projects are at risk of flooding, hurricane storm surges, earthquake liquefaction, or sea level rise.

Organization	Document	Objective
<a href="#">Washington DOT</a>	<a href="#">US Army Corps of Engineers: Levees and Flood Risk Management</a>	WSDOT actively engaged the U.S. Army Corps of Engineers when they learned the Corps was undertaking a major flood study to determine how and where to invest in levees and other flood risk reduction projects. Transportation assets were likely to be affected by the outcomes of the study, but they were not the focus of the study.
<a href="#">LA Metro</a>	<a href="#">Metro Climate Action and Adaptation Plan 2019</a>	Developed climate risk assessment and adaptation plan; incorporating into long range planning process and other systems; emphasis on ensuring equity through resilience planning
<a href="#">NC Capital Area MPO</a>	<a href="#">Connect 2045 The Research Triangle Region's Metropolitan Transportation Plan</a>	Conducted an extreme weather risk assessment, and incorporated extreme weather resilience into the LRTP.
<a href="#">Atlanta Regional Commission</a>	<a href="#">Vulnerability and Resiliency Framework For the Atlanta Region</a>	Developed Vulnerability and Resiliency Framework for the Atlanta region and are currently assessing vulnerabilities and incorporating into the decision-making processes, focusing on vulnerabilities to inland flooding and extreme heat.
<a href="#">Rockingham Planning Commission (RPC)</a>	<a href="#">Regional Master Plan - Climate Change Chapter</a>	<p>A major impetus for considering resilience in transportation planning at the Rockingham Planning Commission has been the increased frequency of natural hazards.</p> <p>RPC has focused on the Goals and Problems and Needs steps of the process, having included resilience as one of their long-range goals and completed a number of vulnerability assessments to inform their planning. RPC is currently developing metrics for considering resilience in project selection and for monitoring performance.</p>
	<a href="#">Seacoast Transportation Corridor Vulnerability Assessment &amp; Plan</a>	This vulnerability assessment and plan will enhance regional coordination in New Hampshire for transportation networks vulnerable to sea-level rise and other coastal hazards in order to maximize information

Organization	Document	Objective
		sharing, identify opportunities to fill data gaps, and develop shared understanding of options for future transportation planning.
	<a href="#">Tides to Storms: Assessing Risks and Vulnerability to Sea-level rise and Storm Surge: A Vulnerability Assessment of Coastal New Hampshire</a>	The Tides to Storms project assessed the vulnerability of coastal municipalities and public infrastructure to flooding from expected increases in storm surge and rates of sea-level rise. The project’s purpose was to develop a regional scale understanding of what and where impacts from sea-level rise and storm surge will occur on New Hampshire’s coast.
	<a href="#">Climate risk in the Seacoast (C-RiSe): Assessing Vulnerability of Municipal Assets and Resources to Climate Change</a>	C-RiSe will provide Great Bay municipalities with maps and assessment of flood impacts to road and transportation assets, critical facilities and infrastructure and natural resources associated with projected increase in storm surge, sea level and precipitation.
	<a href="#">Rockingham Planning Commission 2045 LRTP</a>	The 2045 LRTP includes resiliency related goals and objectives as well as an assessment of current and future conditions.
<a href="#">Northeast Ohio Areawide Coordinating Agency (NOACA)</a>	<a href="#">Transportation Improvement Program 2021 - 2024</a>	<p>NOACA has integrated resilience into the goals and objectives, problems and needs, solutions evaluation, transportation plan, and TIP steps of their transportation planning process. The agency is just beginning to fund and implement resilience projects and intends to develop a monitoring process.</p> <p>NOACA is in the process of updating and expanding its project application process to encourage project sponsors to demonstrate how the project will control and mitigate stormwater during the design, construction, and long-term performance of the project before it is eligible for funding.</p>

## State of Florida and Federal Efforts

The following table highlights resilience efforts conducted by the state of Florida and at the federal level.

Agency	Document Title	Objective
Florida Department of Transportation (FDOT)	<a href="#">FDOT Resilience Quick Guide</a>	FDOT Office of Policy Planning (OPP) developed the Resilience Quick Guide which outlines the steps for an MPO to consider throughout the development of the LRTP
	<a href="#">Resiliency Subject Brief</a>	The Resiliency Subject Brief highlights the importance of planning for resiliency, FDOT’s role in resiliency, the ways in which FDOT is advancing resiliency, the requirements for resiliency, and additional resiliency resources.
	<a href="#">Florida Transportation Plan</a>	The Florida Transportation Plan (FTP) is the single overarching statewide plan guiding Florida's transportation future. It is a plan for all of Florida created by, and providing direction to, the Florida Department of Transportation (FDOT) and all organizations that are involved in planning and managing Florida's transportation system, including statewide, regional, and local partners. The FTP includes seven goals to guide transportation planning decisions.
U.S Department of Transportation Federal Highway Administration	<a href="#">Emergency Relief Program and Resilience</a>	
	<a href="#">Federal-Aid Program Administration</a>	
	<a href="#">Integrating Resilience into the Transportation Planning Process</a>	Integrating Resilience into the Transportation Planning Process
	<a href="#">Special Federal-Aid Funding</a>	
National Centers for Coastal Ocean Science	<a href="#">The Effects of Sea Level Rise Grant Program</a>	

U.S Army Corps of Engineers	<a href="#">Silver Jackets Teams</a>	
	<a href="#">South Atlantic Coastal Study</a>	The vision of the South Atlantic Coastal Study is to provide a common understanding of risk from coastal storms and sea level rise to support resilient communities and habitats.



## Transportation Resource Board Cooperative Research Program Projects

The following table highlights the Transportation Resource Board Cooperative research program projects.

<u>Project Number</u>	<u>Project Title</u>	<u>Stage</u>	<u>Comments</u>
<a href="#">ACRP 02-78</a>	Climate Resilience and Benefit Cost Analysis--A Handbook for Airports	Completed	
<a href="#">ACRP Synthesis 11-03/Topic S02-06</a>	Airport Climate Adaptation and Resilience	Final (Synthesis)	
<a href="#">NCFRP 50</a>	Improving Freight Transportation Resilience in Response to Supply Chain Disruptions	Final	Published as NCFRP Research Report 39.
<a href="#">NCHRP 08-129</a>	Incorporating Resilience Concepts and Strategies in Transportation Planning	Pending	
<a href="#">NCHRP 08-146</a>	Integrating Resiliency into Transportation System Operations	Anticipated	
<a href="#">NCHRP 08-36/Task 146</a>	Economic Resilience and Long-Term Highway/Transportation Infrastructure Investment	Completed	
<a href="#">NCHRP 08-36/Task 73</a>	Adding Resilience to the Freight System in Statewide and Metropolitan Transportation Plans: Developing a Conceptual Approach	Completed	Completed - Final Report sent to AASHTO
<a href="#">NCHRP 15-80</a>	Design Guidance and Standards for Resilience	Anticipated	
<a href="#">NCHRP 20-117</a>	Deploying Transportation Resilience Practices in State DOTs	Active	
<a href="#">NCHRP 20-125</a>	Strategies for Incorporating Resilience into Transportation Networks	Pending	
<a href="#">NCHRP 20-127</a>	Business Case and Communications Strategies for State DOT Resilience Efforts	RFP	

<u>Project Number</u>	<u>Project Title</u>	<u>Stage</u>	<u>Comments</u>
<a href="#">NCHRP 20-24(125)</a>	Scoping Study to Develop the Basis for a Highway Standard to Conduct an All-Hazards Risk and Resilience Analysis	Completed	
<a href="#">NCHRP 20-59</a>	Surface Transportation Security and Resilience Research	Active	
<a href="#">NCHRP 20-59(53)</a>	FloodCast: A Framework for Enhanced Flood Event Decision Making for Transportation Resilience	Active	
<a href="#">NCHRP 20-59(54)</a>	Transportation System Resilience: Research Roadmap and White Papers	Completed	
<a href="#">NCHRP 20-59(55)</a>	Transportation System Resilience: CEO Primer & Engagement	Active	
<a href="#">NCHRP 20-59(56)</a>	Support for State DOT Transportation Systems Resilience and All-Hazards Programs	Completed	
<a href="#">NCHRP 23-09</a>	Scoping Study to Develop the Basis for a Highway Standard to Conduct an All-Hazards Risk and Resilience Analysis	RFP	
<a href="#">NCHRP Synthesis 20-05/Topic 48-13</a>	Resilience in Transportation Planning, Engineering, Management, Policy, and Administration	Final (Synthesis)	
<a href="#">TCRP A-41</a>	Improving the Resiliency of Transit Systems Threatened by Natural Disasters	Completed	