



U.S. Department
of Transportation
**Federal Highway
Administration**

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Resilience Improvement Plans

Promoting Resilient Operations for Transformative, Efficient, and
Cost-Saving Transportation (PROTECT) Program



NOAA Eastern Region Climate Services Webinar
Eva Birk, Office of Natural Environment

Disclaimer

- Except for the statutes and regulations cited, the contents of this presentation do not have the force and effect of law and are not meant to bind States or the public in any way. This presentation is intended only to provide information regarding existing requirements under the law or agency policies.
- FHWA is the source of all images in this presentation unless otherwise indicated.
- This webinar is about the Resilience Improvement Plan development process. Questions about the Discretionary Grant Program or Notice of Funding Opportunity can be sent to: PROTECTdiscretionary@dot.gov

PROTECT Program Overview

- ***Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program*** (established under the Bipartisan Infrastructure Law, Section 11405; 23 U.S.C. 176)
- **Program purpose:** To plan for and strengthen surface transportation to be more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters.

Enacted as the *Infrastructure Investment and Jobs Act*, Pub. L. 117-58 (Nov. 15, 2021)

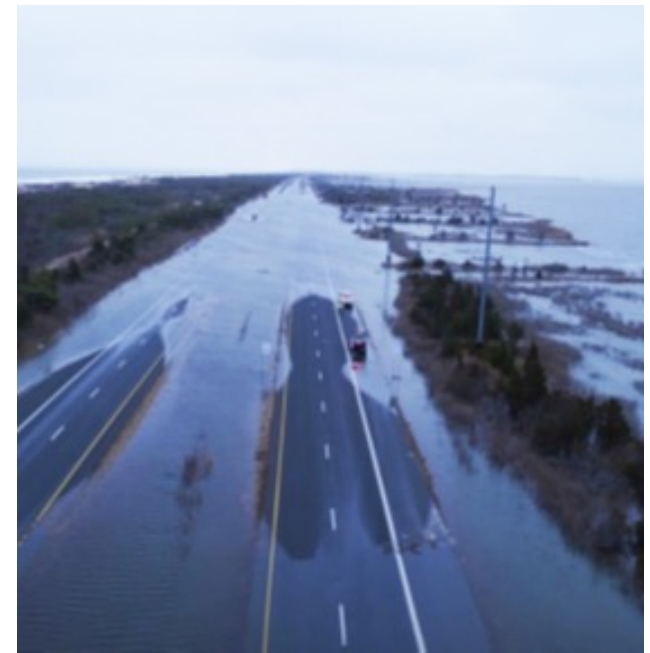


Photo credit: Delaware DOT

Project Types

Project Types	Description
Resilience Planning	Development of Resilience Improvement Plans, resilience planning activities, capacity building, and evacuation planning and preparation. [23 U.S.C. 176(d)(3)]
Resilience Improvements	Projects to make existing surface transportation assets more resilient, such as improving drainage, upgrades to meet or exceed design standards, relocating roadways, or elevating bridges. [23 U.S.C. 176(d)(4)(A)]
Community Resilience and Evacuation Routes	Improvements to make evacuation routes more resilient or add capacity and redundant evacuation routes. [23 U.S.C. 176(d)(4)(B)]
At-Risk Coastal Infrastructure	Protecting, strengthening, or relocating coastal highway and non-rail infrastructure. [23 U.S.C. 176(d)(4)(C)]

What is a Resilience Improvement Plan?

- **Voluntary** plan developed by a State Department of Transportation (DOT) or Metropolitan Planning Organization (MPO) for short and long-range planning activities and investments with respect to the resilience of surface transportation within the boundaries of the State or MPO
- Demonstrates a **systemic approach** to transportation system resilience and includes a **risk-based assessment** of vulnerabilities of transportation assets and systems to current and future weather events and natural disasters

(23 U.S.C. 176(e))

Non-Federal Match Reductions

- A **7%** reduction in the non-Federal share can be applied if the eligible entity has developed a Resilience Improvement Plan in accordance with 23 U.S.C. 176(e) and prioritized the project on that Resilience Improvement Plan
- A **3%** reduction in non-Federal share can be applied if the State incorporates the Resilience Improvement Plan into the long-range statewide transportation plan (LRSTP) under 23 U.S.C 135, or an MPO incorporates the Resilience Improvement Plan into its metropolitan transportation plan (MTP) under 23 U.S.C. 134

Benefits of Developing a Resilience Improvement Plan

▫



Improved system reliability



Incorporation of resilience into transportation planning and programming activities



Support for the resilience planning factor



7% and 3% potential reductions in non-Federal share match available for PROTECT Formula* and PROTECT Discretionary (Grant) Program projects

**State DOTs are the only eligible entities under the PROTECT Formula Program.*

Resilience Improvement Plans - Requirements

Shall..

- Encompass immediate and long-range planning activities and investments
- Demonstrate a systemic approach to surface transportation system resilience
- Be consistent with State and local hazard mitigation plans
- Include risk-based assessment of vulnerabilities to current and future weather events and natural disasters

Shall as appropriate..

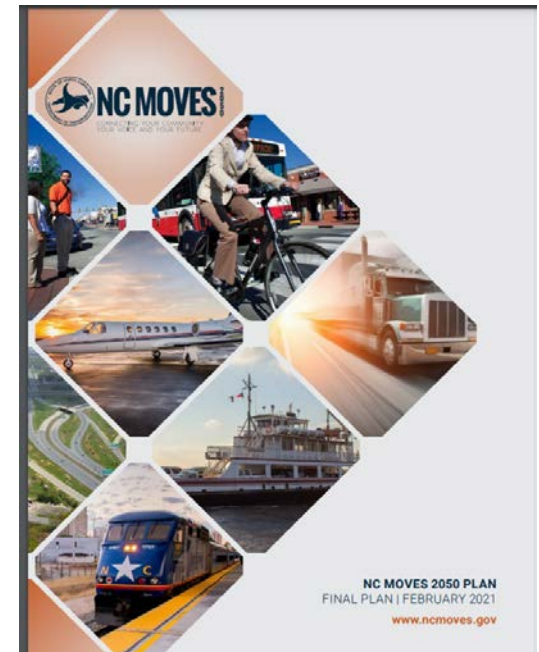
- Describe improved ability to respond promptly to natural disasters, extreme weather preparedness
- Describe codes, standards and regulatory framework
- Consider natural infrastructure
- Assess community infrastructure
- Use a long-term planning method
- Include other information

May include..

- Evacuation routes
- Emergency Response plans
- Resilience-related policies
- Investment plan and prioritized projects

Plan Horizon – Draft Plan Examples

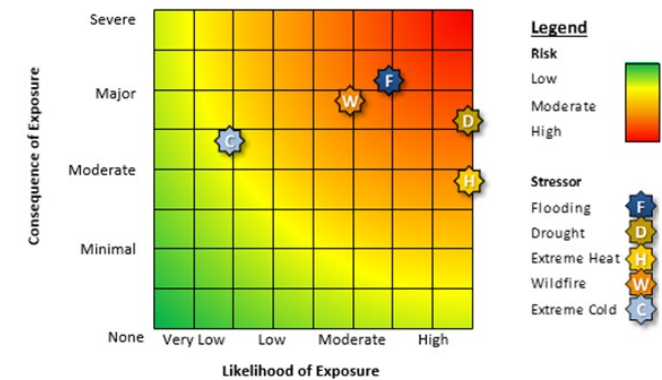
- ❖ **North Carolina DOT** = Using horizon of 50-75 years to account for desired life of assets; also incorporating asset management plan information (e.g., Transportation Asset Management Plans (TAMP)), Metropolitan Transportation Plans (MTPs), and State Transportation Improvement Programs (STIP)



[North Carolina DOT's 2050 Plan](#)

Risk-Based Assessment

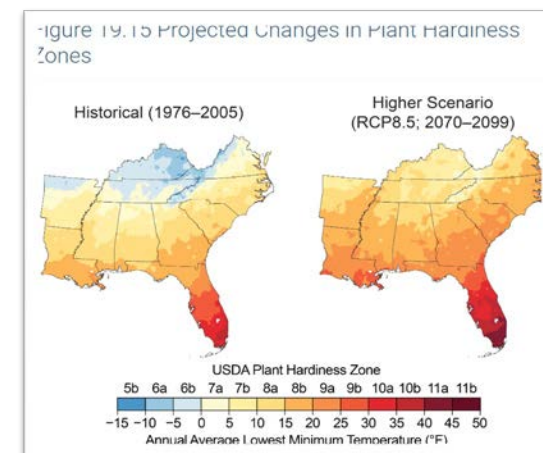
- Resilience Improvement Plan shall “...include a **risk-based assessment** of vulnerabilities of transportation assets and systems to **current and future weather events** and natural disasters...” (23 U.S.C. 176(e)(2)(A-C)).
- ✓ *Should analyze likelihood and consequences of potential impacts*
 - *FHWA Vulnerability Assessment and Adaptation Framework, Third Edition*
 - *Vulnerability Assessment Scoring Tool (VAST), 2015*



[Capital Area Metropolitan Planning Organization \(CAMPO\) Risk Matrix](#)

Risk-Based Assessment - Draft Plan Examples

- ❖ Several SDOTs are expanding upon risks already identified in an existing statewide vulnerability assessment
- ❖ **Rhode Island DOT's** assessment will assess facility vulnerability to flooding and inundation, including vulnerability of adjacent stormwater facilities
- ❖ **Kentucky Transportation Cabinet** is partnering with the Kentucky Transportation Center to incorporate future climate projections



Source: NOAA NCDC / CICS-NC

Additional Resources

- FHWA's Resilience [website](#): additional tools on resilience-based vulnerability assessments and best practices for resilience planning
- PROTECT [website](#)
- PROTECT Discretionary Grant [website](#)
- PROTECT Formula Program [website](#)

Contact: Eva.Birk@dot.gov