



U.S. Department  
of Transportation  
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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  
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# Disclaimer

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- 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](mailto: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)

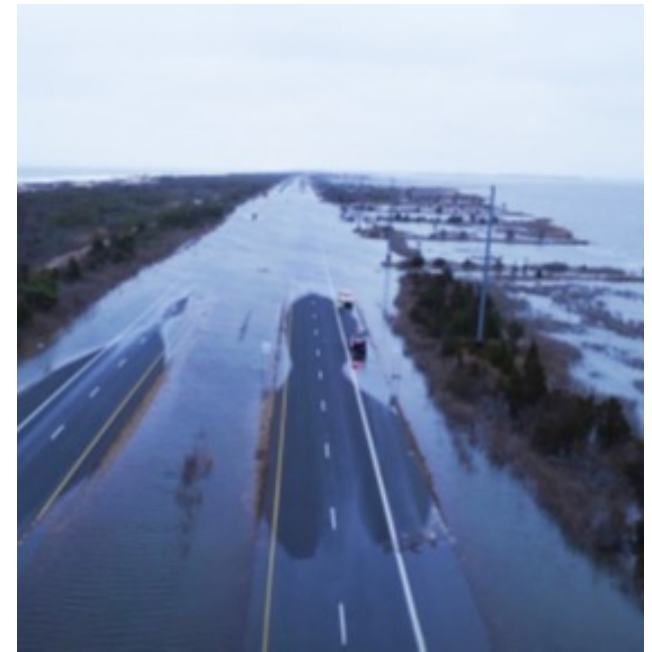


Photo credit: Delaware DOT

# Project Types

Project Types	Description
<b>Resilience Planning</b>	Development of Resilience Improvement Plans, resilience planning activities, capacity building, and evacuation planning and preparation. [23 U.S.C. 176(d)(3)]
<b>Resilience Improvements</b>	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)]
<b>Community Resilience and Evacuation Routes</b>	Improvements to make evacuation routes more resilient or add capacity and redundant evacuation routes. [23 U.S.C. 176(d)(4)(B)]
<b>At-Risk Coastal Infrastructure</b>	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

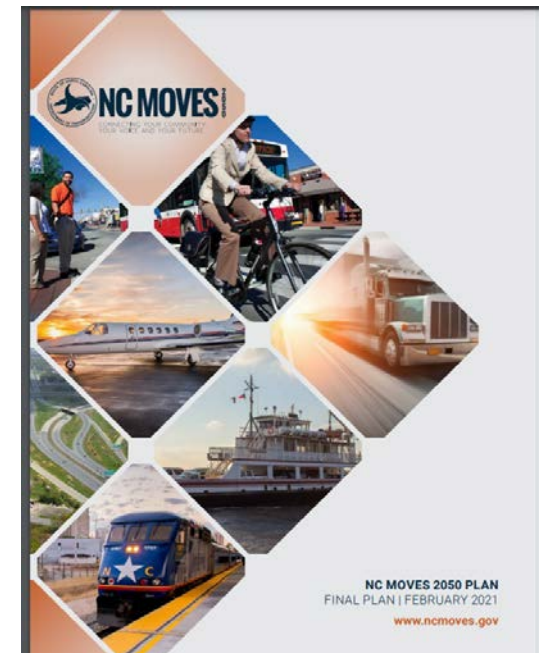
## *May include..*

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



# Plan Horizon – Draft Plan Examples

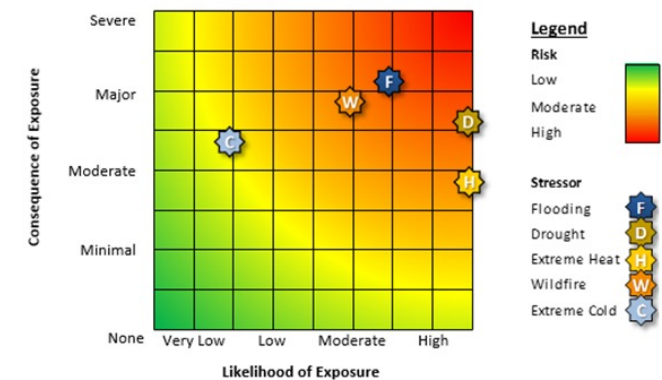
- ❖ **North Carolina DOT** = Using horizon of 50-75 years to account for desired life of assets; also incorporating asset management plan information (e.g., Transportation Asset Management Plans (TAMP)), Metropolitan Transportation Plans (MTPs), and State Transportation Improvement Programs (STIP)



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

# Risk-Based Assessment

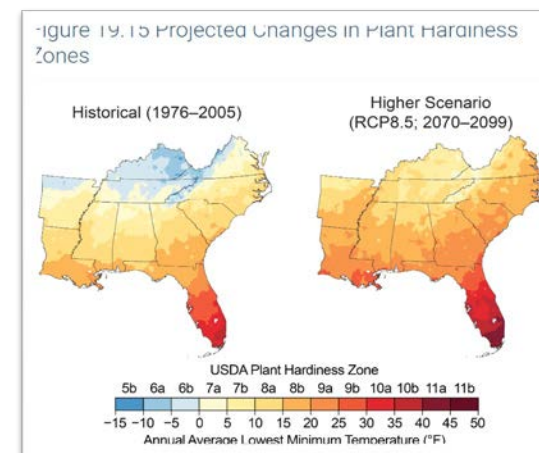
- Resilience Improvement Plan shall “...include a **risk-based assessment** of vulnerabilities of transportation assets and systems to **current and future weather events** and natural disasters...” (23 U.S.C. 176(e)(2)(A-C)).
- ✓ *Should analyze likelihood and consequences of potential impacts*
  - 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](#)

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