

Strategic Objective 5.3—Adapt to Climate Change

Promote infrastructure resilience and adaptation to extreme weather events and climate change through research, guidance, technical assistance, and direct Federal investment.

PERFORMANCE OVERVIEW

Extreme weather events such as Superstorm Sandy, which disrupted major portions of air, highway, transit, and rail line service in the New Jersey-New York metropolitan region, have prompted DOT to consider more carefully how it plans, designs, and builds transportation infrastructure. Superstorm Sandy was the largest tropical storm to impact the Northeast United States in recent history. Climate change research predicts that storms will become stronger, so DOT needs to consider climate change impacts throughout the United States and the incorporation of adaptation strategies into DOT planning, operations, policies, and programs so that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective under extreme climate conditions. The Department will encourage its funding recipients to perform climate change vulnerability and risk assessments for their transportation infrastructure and integrate the results into their planning and decision-making.


DOT Operating Administrations: Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Federal Railroad Administration (FRA), Maritime Administration (MARAD), and Office of the Secretary (OST).

Vulnerability and Risk Assessment (FHWA)

Overview

FHWA is helping communities adapt to the effects of climate change and extreme weather events by assessing vulnerability and risk to their transportation infrastructure and by identifying measures to increase resilience. Improving infrastructure resilience helps communities anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.

PERFORMANCE REPORT

Highway Vulnerability Assessment (FHWA)								
Goal Description	2010	2011	2012	2013	2014	2015 Target	2015 Actual	
Encourage at least 69 State DOTs, MPOs serving a Transportation Management Area (TMA), and Federal land management agencies to undertake an assessment of vulnerabilities of the highway system by FY 2018.	N/A	N/A	N/A	N/A	63	69	71	Met 

Progress Update

The number of States, eligible Metropolitan Planning Organizations (MPOs), and Federal Land Management Agencies (FLMAs) conducting a vulnerability assessment increased to 69 as continued outreach identified new opportunities to apply the vulnerability assessment framework. To facilitate this effort, FHWA published state-of-the-practice and case studies for transportation agencies to use in conducting climate vulnerability and resilience work. These included an [Assessment of the Body of Knowledge](#) and five vulnerability and risk assessment pilot project case studies. Also, FHWA promoted the use of their updated framework for conducting systems-level vulnerability and risk assessments of infrastructure likely to be impacted by climate change effects for use by State and local transportation agencies. Two interactive workshops were held to demonstrate the suite of tools FHWA developed for conducting vulnerability assessments. FHWA completed the [Gulf Coast 2 project](#), in which the Agency conducted an overall vulnerability assessment of the Mobile, AL area, developed detailed engineering assessments of select transportation facilities, and released a suite of adaptation tools and procedures that could be more broadly transferred to communities nationwide. In addition, FHWA funded 19 climate resilience pilots at State DOTs and MPOs across the country and is leading a multi-agency study to learn from the impacts of Superstorm Sandy and Hurricane Irene on the transportation systems in New York, New Jersey and Connecticut. The pilots are largely complete and are pending official release. The post Sandy study should be completed in summer 2016.

PERFORMANCE PLAN

Vulnerability Assessment (FHWA)				
Goal	Indicator	FY 2016 Target	FY 2017 Target	
Encourage at least 69 State DOTs, MPOs serving a Transportation Management Area (TMA), and Federal land management agencies to undertake an assessment of vulnerabilities of the highway system by FY 2018.	Number of State DOTs, MPOs and Federal land management agencies that have conducted vulnerability assessments.	69	79	

Key Strategies

FHWA partners with State DOTs, MPOs, and FLMAs to pilot approaches to conduct climate change and extreme weather vulnerability assessments of transportation infrastructure and to analyze options for adapting and improving resiliency.

Next Steps

FHWA will continue to:

- Disseminate results from the second round of the climate resilience pilot program that assessed vulnerability to climate change and extreme weather events, and to developed options for adapting to future changes.
- Disseminate the results of the Gulf Coast 2 study that was focused on Mobile, AL, including procedures and tools that can be used by MPOs and DOTs around the country.

FHWA will use Highway Research, Technology, and Education, or RT&E, funds to:

- Conduct research to develop climate change mitigation and adaptation strategies.
- Develop and promote tools to help State DOTs and MPOs incorporate climate change and related considerations into transportation plans and systems.
- Complete the Hurricane Sandy project in cooperation with State DOTs and MPOs in the Northeast.
- Conduct a study on transportation engineering approaches to address adaptation and resiliency, which focuses on promoting resiliency at the engineering level.
- Update the FHWA Climate Change & Extreme Weather Vulnerability Assessment Framework to incorporate results of recent research and DOT and MPO practices.

Goal Leader

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