

**Statement of Gregory G. Nadeau
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Hearing on
The Federal Role in Disaster Recovery and Response
Before the
Committee on Appropriations
Subcommittee on Homeland Security
United States Senate**

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Chairman Landrieu, Ranking Member Coats, and Members of the Subcommittee, thank you for the opportunity to testify today regarding Federal Highway Administration (FHWA) disaster response activities.

Our country has experienced a number of devastating disasters over the past year—from floods and tornadoes to hurricanes and other severe storms. What nature destroys in seconds can take weeks, months, or even years to rebuild.

The Obama Administration is committed to helping Americans recover from the damage caused by these natural disasters. Although lives lost from such disasters can never be replaced, programs like the Emergency Relief (ER) program play a pivotal role in helping communities rebuild critical transportation infrastructure. Restoring vital transportation links in the wake of a disaster requires immediate attention so people can travel safely and return to their daily routines and activities.

The Emergency Relief Program

The ER program provides funding to States for the repair and reconstruction of Federal-aid highways and roads on Federal lands that have suffered serious damage as a result of natural disasters or catastrophic failures from an external cause. Examples of natural disasters include floods, hurricanes, earthquakes, tornadoes, severe storms, and landslides. A catastrophic failure is defined as the sudden and complete failure of a major element or segment of the highway system that causes a disastrous impact on transportation services. In addition, the cause of the catastrophic failure must be determined to be external to the facility. A bridge suddenly collapsing after being struck by a barge is an example of a catastrophic failure from an external cause. Failures due to an inherent flaw in the facility itself do not qualify for assistance under the ER program.

Congress has funded the ER program through a permanent annual authorization of \$100 million since 1972. When ER program needs exceed available funding, Congress may provide supplemental appropriations to cover the ER program needs. Over the past 12 years, the costs of nationwide ER events, not including large scale disasters (e.g., Hurricane Katrina) have averaged about \$350 million annually.

Eligibility

Two major categories of repair are eligible under the ER program—emergency repairs and permanent repairs. Emergency repairs include repairs needed to restore essential traffic, minimize the extent of damage, or protect the remaining facilities. Emergency repairs can begin immediately following a disaster without prior approval from FHWA. Permanent repairs are those repairs that permanently restore a highway facility to its pre-disaster condition. FHWA approval and authorization is required prior to permanent repairs.

Funding under the ER program is intended to aid Federal, State and local highway agencies with an unusually heavy expense of repairing serious damage to Federal-aid highways and roads on Federal lands resulting from natural disasters or catastrophic failures from an external cause. The ER program provides for repair and restoration of highway facilities to pre-disaster conditions based on current design standards; ER funds are not intended to replace other Federal-aid, State, or local funds for new construction to increase capacity, correct non-disaster related deficiencies, or otherwise improve highway facilities.

Generally, all elements of the highway cross section damaged as a direct result of a disaster are eligible for repair under the program. This includes, but is not limited to, elements such as pavement, shoulders, slopes and embankments, guardrail, signs and traffic control devices, bridges, culverts, cribbing or other bank control features, bike and pedestrian paths, fencing, and retaining walls. When a pedestrian or bicycle trail that is within the right-of-way of a Federal-aid highway is damaged, that damage is eligible for ER funding whether or not the roadway itself is damaged. Because ER funds are intended to cover only that repair work which exceeds heavy maintenance, is extraordinary, and will restore pre-disaster service, incidental costs resulting from a disaster, such as project delay costs or lost toll revenues, are not eligible expenses.

Federal Share

Emergency repair work to restore essential traffic, minimize the extent of damage, or protect the remaining facilities, accomplished within the first 180 days after the occurrence of the disaster, may be reimbursed at 100 percent Federal share. For the costs of permanent restoration work, and the cost of all repairs incurred after the first 180 days, the Federal share is based on the type of Federal-aid highway that is being repaired. For Interstate highways, the Federal share is 90 percent. For all other Federal-aid highways, the Federal share is 80 percent.

Oversight

The Federal-aid highway program is a Federally-assisted, State-administered partnership between the FHWA and the States. FHWA's Division Offices, located in every State, function as the Agency's focal points in advancing Federal-aid highway projects. The Division Office is available to brief State and local officials on the ER program; offer advice regarding the eligibility of repairs for funding; assist in performing on-site damage surveys and preparing estimates of the costs of repairs; expedite the flow of ER funding and the advancement of projects; provide technical assistance on the design of repair projects; and coordinate damage surveys with other Federal agencies.

FHWA manages ER projects in accordance with normal Federal-aid project requirements. Contracts for both permanent repair work and emergency repairs must incorporate all applicable Federal requirements. ER program project oversight is performed in accordance with the FHWA stewardship agreement with the State.

Release of Funds

The decision to seek ER program assistance rests with the State. Local highway agencies make their applications through the State. The State has the option to determine whether it will seek ER funding for repair of either State-owned or local-agency-owned Federal-aid highways.

The State and local transportation agencies are empowered to begin emergency repairs immediately to restore essential traffic service and to prevent further damage to Federal-aid highway facilities. Properly documented costs are later reimbursed after the State formally requests ER funding, and the FHWA Division Administrator makes a finding of eligibility for ER funds.

There are two methods for developing and processing a State request for ER funding—the "traditional" method and the "quick release" method. The first method is labeled as "traditional" because it follows the normal process used to develop a funding request. The second method, the "quick release" method, is intended to provide an immediate infusion of funds to a State in order to start getting communities back on their feet. Quick release funds act as a down payment on additional ER requests a State will make as it assesses the full extent of damage following a large scale disaster.

The Emergency Relief for Federally Owned Roads Program

Emergency Relief for Federally Owned Roads (ERFO) is authorized within the ER program to assist Federal agencies with emergency repairs to roads associated with Federal and Tribal lands. The ERFO program is authorized and funded under the ER program, typically receiving approximately 10 percent of the ER program funds, which is the average relative share of needs on Tribal and Federal roads compared to State-administered needs.

Roads eligible for the ERFO program include forest highways, forest development roads and trails, park roads and trails, parkways, public lands highways, public lands development roads and trails, refuge roads and trails, and Indian reservation roads. The Federal Share for the ERFO program is 100 percent. FHWA's Federal Lands Highway Office administers the ERFO program.

Emergency Relief Funds at Work

Emergency Relief program funds are essential to maintaining mobility for the American public. Natural disasters and catastrophes that destroy highways and bridges are unpredictable events and can occur anywhere in the country. When a natural disaster or catastrophe strikes, the ER program is available to provide assistance to clear a roadway and reopen highways to traffic and to make permanent repairs to restore a damaged highway facility.

Following the 2005 Gulf Coast hurricanes, FHWA employees worked shoulder-to-shoulder with their State and local counterparts to rapidly assess the situation and to shape strategies that would

provide the most efficient response. With permanent Division Offices in each State, FHWA was well positioned to respond rapidly to the effects of the hurricanes. FHWA's Division Offices provided advice to State and local jurisdictions concerning ER program eligibility and engineering and contracting issues and shared lessons learned from prior emergency situations. Congress provided approximately \$2.8 billion in ER funds to assist States in the repair and recovery of Federal-aid highways damaged by the hurricanes. These funds were instrumental in assisting the Gulf Coast region with needed recovery efforts following the devastating impact from Hurricanes Katrina, Rita, and Wilma.

In November 2006, storms across Washington, Oregon, Idaho and Montana caused damage to the historic Going to the Sun Road in Glacier National Park. Emergency repairs, including the installation of a temporary bridge, began after the snow melted the following spring. FHWA provided \$10.4 million in ERFO funds for permanent repairs constructed between 2007 and 2009.

In March 2010, a severe storm resulted in heavy rain across portions of New Jersey. The high winds and extreme runoff and flooding caused damage on the local highway system in the counties of Atlantic, Burlington, Gloucester, Monmouth, Morris, and Somerset. The damage included widespread failure of traffic signs and signals, roadway and culvert damage, erosion, and failure of a retaining wall. In response to this disaster, FHWA provided New Jersey with an ER allocation of \$1.7 million in April 2011.

Heavy rainfall in May 2010 resulted in a section of US 87/89 near Belt, Montana experiencing a catastrophic slope failure. The over-saturated subgrade caused movement of an underlying slip plane and resulted in excessive roadway damage. Essential traffic was immediately detoured to allow emergency repairs and maintain public safety. FHWA provided \$2.7 million in ER funds in April of this year to assist Montana in the rebuilding of US 87/89.

A significant rain event resulting in more than 300 percent of normal precipitation occurred in parts of western and central Washington in January 2010. This event contributed to landslides, rock falls and washouts, threatening citizens and property in King, Chelan, Okanogan and Jefferson counties. In April 2011, FHWA provided an ER allocation of \$3.1 million to Washington to help repair damaged Federal-aid highways.

Strong storms and tornadoes struck the state of Alabama on April 27, 2011, leaving catastrophic destruction in their wake. A very large and exceptionally destructive tornado struck Tuscaloosa, Pratt City, Pleasant Grove, and the northern suburbs of Birmingham. President Obama declared an emergency that same day. In June, Secretary of Transportation Ray LaHood and Federal Highway Administrator Victor Mendez visited Birmingham to survey the damage and announce an ER allocation of \$1.5 million in quick release funds to assist in the recovery and repair efforts of Federal-aid highways damaged by the tornado. These funds provided a down payment to help the State address the initial destruction.

Excessive snow melt from the mountains of Montana and unusually heavy rain throughout the upper Missouri River basin resulted in historic flooding of the Missouri River along the western border of Iowa starting in May 2011. Flood waters remained high in the area for several weeks, closing several major highways. In July, Secretary LaHood announced \$2 million in quick release funds available to the Iowa Department of Transportation to reimburse the State for work

done on Federal-aid highways immediately following the flooding. These funds will be used to reimburse Iowa for costs of controlling traffic flow; shoring up roads and bridges; and other measures implemented immediately after the flooding to prevent further damage, including strengthening the shoulder sections of the highways, sand bagging, and asphalt overlays.

Beginning on August 26, Hurricane Irene brought substantial rainfall and heavy winds resulting in damages to Federal-aid highways along the East Coast. In Vermont, the heavy rains combined with the mountainous terrain created concentrations of runoff that caused washouts of roads and bridges throughout the State. Several bridges were completely destroyed, and temporary bridges will be necessary to restore traffic at those locations. Just four days after the storm, the FHWA made \$5 million in quick release emergency funds available to the Vermont Department of Transportation (VTrans) to help repair roads and bridges damaged by floods from Hurricane Irene. VTrans will use these quick release funds to expedite emergency repairs to roads, highways and bridges critical to communities throughout the State. VTrans currently estimates that it is possible that overall damages to Federal-aid highways from the floods will exceed \$700 million.

Anticipating the effects of Hurricane Irene, FHWA postponed the release of ER funding available to address Fiscal Year 2011 obligation needs so that immediate needs could be addressed. In addition to allocations made to Vermont, FHWA recently has made quick release funds available to several other States along the East Coast to begin repairs to roads and bridges damaged by floods from Hurricane Irene, including Connecticut, Maine, New Hampshire, New Jersey, and New York. FHWA is in the process of surveying all States to assess their current ER obligation needs and plans to allocate a substantial amount of additional ER funds by the end of this month.

Modeling and Research Activities

In addition to implementing the ER Program, FHWA is engaged in several other activities to help minimize the effects of natural disasters and catastrophic events on highway infrastructure. FHWA provides States with access to the Freight Analysis Framework (FAF) modeling tool which can help States prepare for freight traffic shifts resulting from major road closures after natural disasters. The tool works by removing the closed or damaged highway from the network model, rerouting the freight traffic on undamaged highways, and then displaying routes the freight traffic likely would take.

The FAF tool is posted on the FHWA web site and has been refined and updated over the years to make it more widely available. Knowing the potential changes in regional freight travel patterns in times of crisis helps States to establish detours, prepare alternative routes to handle more traffic, and adjust signals and message signs. It can help ensure traffic continues to flow smoothly and safely for travelers on the highways.

Additionally, FHWA has been engaged in researching, developing, and deploying technologies associated with improving infrastructure resilience in support of disaster response and recovery. These activities address hazard mitigation in the area of windstorms, flooding and scour, earthquakes, and security hazards. FHWA also participates in intergovernmental committees such as the National Science and Technical Council's Subcommittees on Disaster Reduction and Infrastructure that provide advice to the White House Office of Science and Technology Policy and coordinate research and development activities among Federal agencies.

FHWA is conducting research and collecting data to develop technologies that would minimize damage to bridges from wind hazards. The Agency monitors a number of bridges at various field test sites and conducts in-house testing at the aerodynamics laboratory housed at the Turner Fairbank Highway Research Center (TFHRC).

FHWA's Bridge Hydraulics Program focuses on scour, the leading cause of bridge failure, and also studies flooding and other soil erosion problems occurring around bridge supports. This research is conducted in the TFHRC hydraulics laboratory. After Hurricanes Katrina and Rita, FHWA conducted a study to examine the impact of wave forces on bridge decks and developed optimum bridge deck shapes to minimize the type of damage that resulted from these hurricanes.

Under the Seismic Program, FHWA has researched how bridges and other structures perform during large, damaging earthquakes and has developed a number of technologies to improve the design of bridges to better withstand earthquakes.

Since the events of September 11, 2001, FHWA has administered a program to develop technologies that mitigate against terrorist threats. Working together with the Department of Homeland Security, the Army Corps of Engineers, and bridge owners, FHWA has developed systems to harden bridge components against blast loadings. FHWA also has contributed to the National Response Plan, the Transportation Sector Specific Plan, and the Critical Infrastructure Protection Research and Development Plan managed by the Department of Homeland Security.

Conclusion

Emergency Relief funds are helping States across the country undertake the massive job of restoring damaged roads and bridges so that the public can travel safely and communities can rebuild. FHWA also continues to explore technologies and other tools to help highway infrastructure better withstand the effects of extreme weather events. As we continually brace for new natural disasters and catastrophic failures, FHWA remains committed to helping States repair and reconstruct transportation infrastructure damaged by such events.

I thank you for the opportunity to discuss FHWA's disaster response efforts. I would gladly answer any questions at this time.

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