

# US roads, airports unready for extreme weather

November 22 2012, by Joan Lowy

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This Oct. 30, 2012 file photo shows man peering into the closed Bowling Green subway station in New York, after Superstorm Sandy hit the east Coast. Extreme weather is a growing threat to the nation's lifelines \_ its roads, bridges, railways, airports and transit systems \_ leaving states and cities trying to come to terms with a new normal. (AP Photo/Richard Drew, File)

(AP)—America's lifelines—its roads, airports, railways and transit systems—are getting hammered by extreme weather beyond what their

builders imagined, leaving states and cities searching for ways to brace for more catastrophes like Superstorm Sandy.

Even as they prepare for a new normal of [intense rain](#), historic floods and record [heat waves](#), some transportation planners find it too politically sensitive to say aloud the source of their weather worries: climate change.

Political differences are on the minds of the American Association of State Highway and Transportation Officials, whose advice on the design and maintenance of roads and bridges is closely followed by states. The association recently changed the name of its Climate Change Steering Committee to the less controversial [Sustainable Transportation, Energy Infrastructure](#) and Climate Solutions Steering Committee.

Still, there is a recognition that the association's guidance will need to be updated to reflect the new realities of global warming.

"There is a whole series of standards that are going to have to be revisited in light of the change in climate that is coming at us," said John Horsley, the association's executive director.

In the latest and most severe example, Superstorm Sandy inflicted the worst damage to the New York subway system in its 108-year history, halted Amtrak and commuter train service to the city for days, and forced cancellation of thousands of airline flights at airports in New York, New Jersey and Philadelphia.

Wild weather is taking a toll on transportation across the country.

In Washington state, "we joked we were having 100-year storms every year," said Paula Hammond, head of the state's Department of Transportation.

Last year flooding threatened to swallow up the Omaha, Nebraska, airport, which sits on a bend in the Missouri River. The ground beneath the airfield became saturated, causing about 100 sinkholes and "soil boils"—uplifted areas of earth where water bubbles to the surface. The airport was spared through a massive effort that included installing 70 dewatering wells and stacking sandbags around airport equipment and buildings.

Record-smashing heat from Colorado to Virginia last summer caused train tracks to bend and highway pavement to buckle. A US Airways jet was delayed at Washington's Reagan National Airport after its wheels got stuck in a soft spot in the tarmac.

In Texas, Dallas had more than five weeks of consecutive 100 degree-plus high temperatures. "That puts stress on pavements that previously we didn't see," Horsley said.

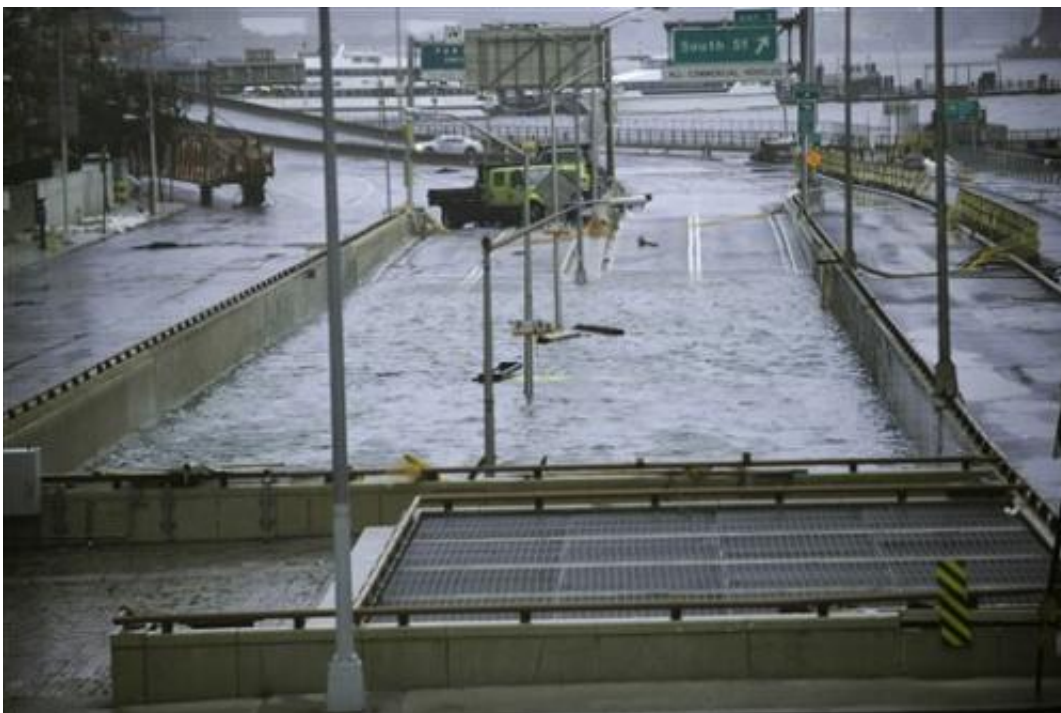


This Nov. 19, 2012 file photo shows a North Carolina Department of Transportation worker jumping over running ocean water as he moves traffic cones on the damaged section of N.C. highway 12 just north of the Mirlo Beach area in Rodanthe on Hatteras Island, N.C. Extreme weather is a growing threat to the nation's lifelines \_ its roads, bridges, railways, airports and transit systems \_ leaving states and cities trying to come to terms with a new normal. (AP

Photo/The Virginian-Pilot, Steve Earley, File) MAGS OUT

States and cities are trying to come to terms with what the change means to them and how they can prepare for it. Transportation engineers build highways and bridges to last 50 or even 100 years. Now they are reconsidering how to do that, or even whether they can, with so much uncertainty.

No single weather event, even a storm like Sandy, can be ascribed with certainty to climate change, according to scientists. But the increasing severity of extreme events fits with the kind of changing climate conditions that scientists have observed.



This Oct. 30, 2012 file photo shows water reaching the street level of the flooded Battery Park Underpass, Tuesday in New York, remnants from Superstorm Sandy. Extreme weather is a growing threat to the nation's lifelines \_ its roads,

bridges, railways, airports and transit systems \_ leaving states and cities trying to come to terms with a new normal. (AP Photo/ Louis Lanzano, File)

For example, several climate scientists say sea level along New York and much of the Northeast is about a foot higher than a century ago, mostly because of man-made global warming, and that added significantly to the damage when Sandy hit.

Making transportation infrastructure more resilient will be expensive, and the bill would come at a particularly difficult time. Aging highways, bridges, trains and buses already are in need of repair or replacement and no longer can handle peak traffic demands. More than 140,000 bridges are structurally deficient or obsolete. The problem only will worsen as the U.S. population grows.



This aerial handout photo provided by the Omaha Airport Authority, taken June

15, 2011, shows flooding around the airport in Omaha, Neb. Extreme weather is a growing threat to the nation's lifelines \_ its roads, bridges, railways, airports and transit systems \_ leaving states and cities trying to come to terms with a new normal. (AP Photo/Omaha Airport Authority)

A congressional commission estimated that all levels of government together are spending \$138 billion a year less than is needed to maintain the current system and to make modest improvements.

In the state of Washington, "we have seen more erratic weather patterns that we haven't had before, so we really can't imagine what kind of winter or summer we're going to have anymore," Hammond said.

More frequent heavy rainfalls in the western half of the state have increased the volume and velocity of water in rivers and streams, undermining the foundations of bridges. Rising sea levels are eroding coastal roads. In the drier eastern half of the state, more frequent wildfires have forced road maintenance crews to change their methods in an effort to prevent sparks that might cause a blaze.

About half the states have taken some steps toward assessing their most critical vulnerabilities, experts said. But few have gone to the next step of making preparations. New York was an exception. Not only had transit officials made detailed assessments of the potential effects of climate change, but they'd started to put protections in place. Subway entrances and ventilation grates were raised in low-lying areas to reduce flooding, but that effort was overwhelmed by Sandy.

While more than 97 percent of the scientists who publish peer-reviewed research say that global warming is real and man-made, the issue remains highly charged. In conservative states, the term "climate change" is often

associated with left-leaning politics.

Planning for weather extremes is hampered by reluctance among many officials to discuss anything labeled "climate change," Horsley said.

"In the Northeast, you can call it climate change. ... That's an acceptable term in that region of the country," he said. "Elsewhere, in the South and the (Mountain) West, it's still not an acceptable term because of ideology or whatever you want to call it."

For example, Horsley said, in North Dakota, where there has been severe flooding in recent years, state officials avoid bringing up global warming, preferring to couch their discussions on how to shore up infrastructure as flood preparation.

The Obama administration has also shied away from talking publicly about adaptation to climate change. Transportation Secretary Ray LaHood's office refused to allow any department officials to be interviewed by The Associated Press about the agency's efforts to help states adapt. The Transportation Department and other federal agencies are involved in preparing a national assessment of climate change impacts and adaptations that may be needed. Their report is expected to be finished in the next few months.

Steve Winkelman, director of transportation and adaptation programs at the Center for Clean Air Policy, said he uses terms like "hazard mitigation" and "emergency preparedness" rather than [climate change](#) when talking to state and local officials.

"This is about my basement flooding, not the polar bear—what I call inconvenient sewer overflow," Winkelman said. "It makes it real."

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