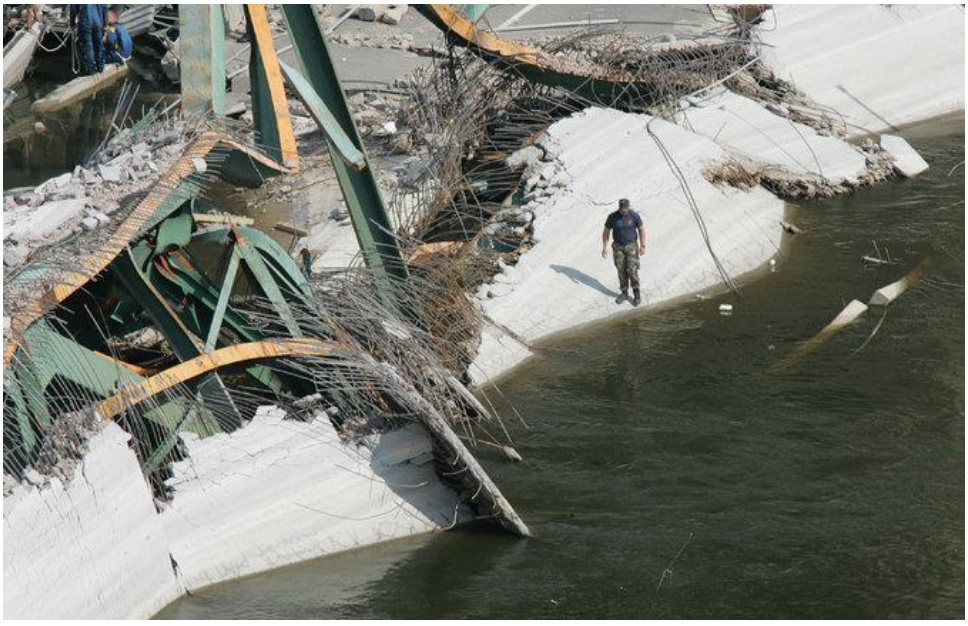
The New York Times

Human Cost Rises as Old Bridges, Dams and Roads Go Unrepaired

Ron Nixon | November 5, 2015



On Aug. 1, 2007, an Interstate 35W bridge fell into the Mississippi River in Minneapolis during the evening rush. Thirteen people were killed and 145 injured. Credit Ruth Fremson/The New York Times

WASHINGTON — A routine trip to run errands almost cost Katherine Dean her life. In February, just as Ms. Dean, of suburban Maryland, drove underneath a bridge on the Capital Beltway, a large chunk of concrete fell from the structure, crushing the hood of her car and smashing the windshield.

She was unharmed, but the incident left her shaken. After the news media picked up her story, the state apologized to her, and state officials ordered an immediate inspection of other aging bridges along the suburban route encircling Washington, also known as Interstate 495.

“My biggest fear is that once this is no longer in the headlines it will fall by the wayside,” said Stephen M. Gensemer, a Maryland lawyer who represented Ms. Dean in a financial settlement with the state. “It concerns me that we have this focus on our aging infrastructure only when you have pieces of concrete falling on a motorist.”

It is a concern shared by many Americans. From coast to coast, the country's once-envied collection of bridges, dams, pipelines, sewage treatment plants and levees is crumbling. Studies have shown that a lack of investment in public infrastructure costs billions of dollars a year in lost productivity, as people sit in traffic or wait for delayed shipments.

The Lake Murray dam near Columbia, S.C. After recent heavy rain, 36 dams in South Carolina collapsed and 19 people died in the flooding. Some of the dams were over 100 years old. Credit Chuck Burton/Associated Press

But experts on transportation infrastructure say the economic measures obscure the more dire threat to public safety: Every year, hundreds of deaths, illnesses and injuries can be attributed to the failure of bridges, dams, roads and other decaying structures.

On Thursday, the House overwhelmingly approved a highway bill that would make significant investments in transportation infrastructure over the next three years. But the bill, and a similar Senate version passed earlier in the year, still fall far short of what many infrastructure experts say is needed, both in terms of time and money.

Obtaining permits alone can be a yearslong process for many projects, and lawmakers have long said that six-year bills are optimal so that states have the ability to plan and to properly fix decaying structures that could pose a hazard to public safety.

"There is no question that there are safety impacts and loss of life because we didn't take the time or spend the money to make infrastructure what it should be," Anthony R. Foxx, the transportation secretary, said in an interview.

The House and Senate bills now go to conference, and a final measure is expected to win passage later this fall.

There is no national record-keeping of how many deaths, injuries and illnesses are caused by crumbling infrastructure. But the spare data that does exist suggests that structures in need of repair do affect public health and safety.

The federal Department of Transportation estimates that obsolete road designs and poor road conditions are a factor in about 14,000 highway deaths each year. Research by Ted Miller, a senior research scientist at the Pacific Institute for Research and Evaluation, which receives financing from the Transportation Department, put the medical cost of highway injuries from poor road conditions at $11.4 billion for 2013, according to the latest data available.

The problem extends beyond roads. Research by the National Transportation Safety Board shows that since 2004, about 77 deaths and 1,400 injuries could have been prevented if railroads had installed a safety system known as Positive Train Control. That includes an Amtrak train derailment in May that killed eight people and injured hundreds more in Philadelphia.

According to the most recent annual survey by the Centers for Disease Control and Prevention, outbreaks of disease related to drinking water caused 431 cases of illness, 102 hospitalizations and 14 deaths, many linked to aging and crumbling water systems. An independent study in 2008 suggested that the problem could be much larger because many such illnesses are not reported.

In recent years, several well-publicized failures of roads, bridges and oil and natural gas pipelines have highlighted the lack of spending on infrastructure and the inability of strapped states to adequately inspect their structures.

A car was pulled from the Mississippi River after the Interstate 35W bridge collapsed in 2007. Credit Ruth Fremson/The New York Times

Most recently, in South Carolina, 36 dams collapsed after heavy rain. About 19 people died in the flooding, mostly in their cars as waves of rushing water covered their vehicles.

State regulatory documents show that many of those dams, some of them more than 100 years old, had a history of problems and that the state's dam inspection program had long been criticized for being among the weakest in the nation. In 2014, the state spent just $260,000 on its dam safety program.

"As far as I'm concerned, all the deaths that we had in the state can be attributed to the collapse of dams," said state Representative Joseph H. Neal, a Democrat, who represents parts of Richland County.

Nationwide, 73 dams have failed since 2010, not including the recent ones in South Carolina, according to the Association of State Dam Safety Officials. The data shows that most of the failures were caused by extreme weather. The average age of the dams that failed was 62 years.

"It's a serious public safety issue," said Lori Spragens, the executive director of the association.

Experts say the same could be said of other disintegrating structures. Since the Interstate 35W bridge in Minnesota collapsed into the Mississippi River in 2007, killing 13 people and injuring 145, bridge safety has been in the spotlight.

According to the American Society of Civil Engineers, about one in nine bridges nationally are considered "structurally deficient" — deemed safe for travel but in need of renovation or replacement.

The chunk of concrete that almost fell on Ms. Dean came from a bridge that was built in 1963. It was already on the list of roughly 80 bridges in Maryland deemed structurally deficient and was in the design phase of being resurfaced, officials said.

Now, it will be replaced at a cost of $15 million to $20 million, said David Buck, a spokesman for the Maryland State Highway Administration.

Many of the decaying structures nationwide are overlooked because they are out of sight. Senator Bob Casey, Democrat of Pennsylvania, said the nation's 2.5 million miles of pipelines that carry oil and natural gas were a prime example.

The collapse of the I-35W bridge in Minneapolis in 2007 killed 13 people and focused attention on the state of bridges across the nation.

"Most of them are buried underneath the streets so it's not something people see every day and worry about," Mr. Casey said. "But we ignore them at our own peril."

In 2011, five people, including a toddler, died when a 100-year-old pipeline exploded in Allentown, Pa. State officials had recommended replacing the pipeline nearly 30 years earlier.

Patty Voight, a resident of King of Prussia, Pa., said her parents lost their home in the explosion and barely escaped. Ms. Voight said she hoped that more attention was placed on aging infrastructure in the aftermath of the explosion.

“We need to put a human face on the dangers,” she said.

Eighty-five percent of pipelines fall under state scrutiny. An audit last year by the Department of Transportation found that its Pipeline and Hazardous Materials Safety Administration was failing to ensure that state inspectors were properly trained, that inspections were being conducted frequently enough and that the inspections focused on the riskiest pipelines.

Mr. Casey has called for additional funding for increased pipeline oversight, more inspections and upgrades of aging pipelines.

Spending on infrastructure has remained flat for decades. According to data from the nonpartisan Congressional Budget Office, governments have collectively spent 2.4 percent of the nation’s gross domestic product on infrastructure since 1956. Transportation experts say that percentage should be higher because repair needs are rising.

Last year, about $416 billion was spent on infrastructure — about $320 billion from the states and $96 billion from the federal government.

Much of America’s infrastructure was built many decades ago with the understanding that the structures would remain in place for no more than 50 years or so. But many structures have exceeded that age.

Lawmakers in both parties say that fixing America’s aging infrastructure is a top priority but that political pressure to restrain government spending is getting in the way.

Although the House bill adopted on Thursday would provide some certainty for infrastructure projects over the next three years, neither the House bill nor the Senate measure addresses a chronic shortage in financing for the Highway Trust Fund, which pays for most federal road projects.

The fund is nearly insolvent because it is based on a gas tax that is set at 18.4 cents a gallon. The tax has not been raised since 1993 and is not indexed to inflation. Also, the greater fuel efficiency of modern cars has reduced gas usage.

“We can bury our heads in the sand and keep on keeping on until something falls down,” said Michael E. Kreger, a professor of civil engineering at the University of Alabama. “It’s

like a car that you don't do anything to but change the oil. At some point, it's going to leave you on the side of the road."