

More than a Bandage for New Jersey's Crumbling Bridges

Making the Case for a Long-Term and Sustainable TTF

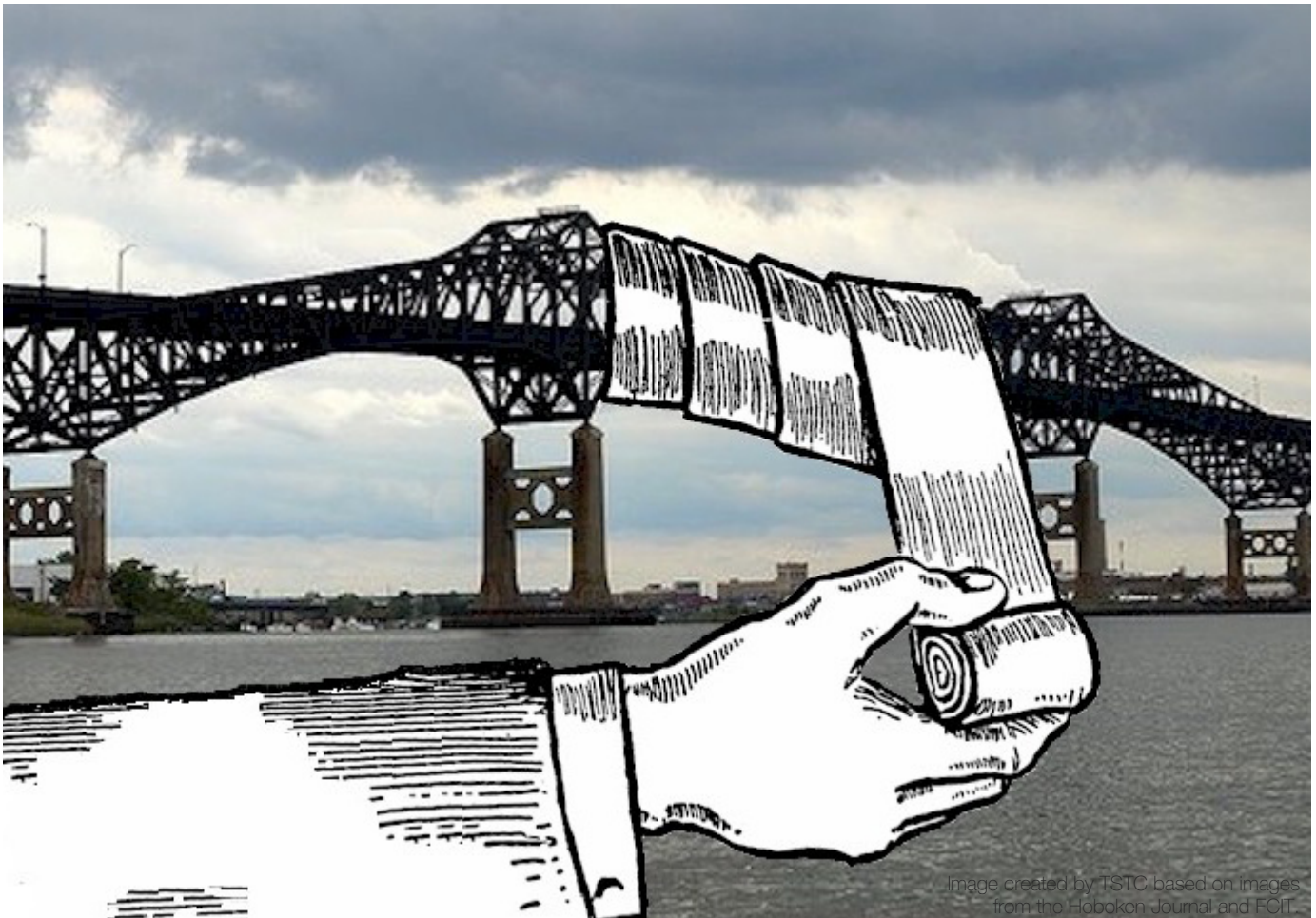


Image created by TSTC based on images from the Hoboken Journal and FOIT.

TRI-STATE TRANSPORTATION CAMPAIGN



Mobilizing the Region

December 2010

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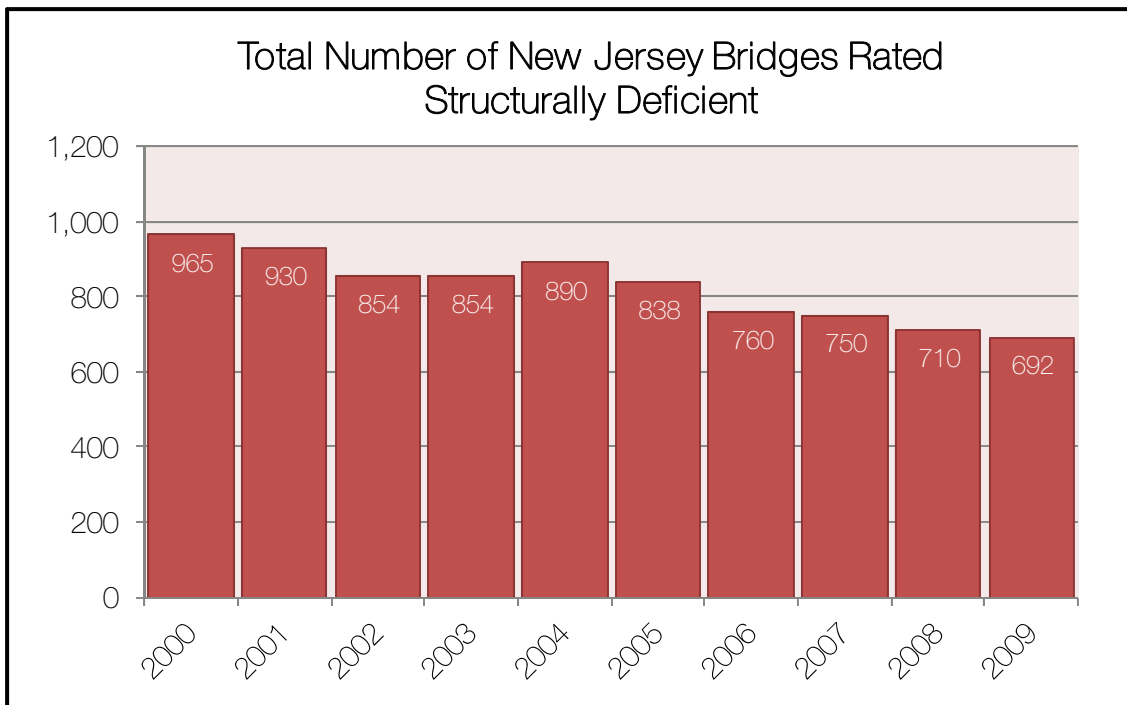
Introduction

With some of the oldest infrastructure in the country, New Jersey has its work cut out maintaining the state's roads and bridges. More than 9,500 bridges cross the state's numerous waterways or lift traffic over roads, highways, and railroad tracks. The state currently spends hundreds of millions annually in federal, state, and local funding to maintain those bridges and ensure that they remain safe to cross, with the state portion coming out of the primary state transportation funding source, Transportation Trust Fund.

But despite those investments, nearly 800 New Jersey bridges, representing more than eight percent of the total, exceed their expected lifespan of 75 years, according to data from the National

Bridge Inventory. And the average age of the state's bridges comes in at 41 years. More than 200 major bridges (on Interstates, freeways, and principal arterials) were rated structurally deficient, indicating they are in need of repair immediately or in the near future, according to the most recent federal data.

The state has made significant progress in reducing its backlog of deficient bridges. The 2000 Congestion Relief and Transportation Trust Fund Renewal Act established a goal of reducing the number and square footage of deficient bridges by half within 10 years. In the first decade since that law was passed, New Jersey has spent more than \$4 billion on new bridges, repair and rehabilitation. Consequently, the number of structurally



Source: FHWA. National Bridge Inventory, 2000-2009.

deficient bridges has fallen by 28 percent, and the square footage by 14 percent. The tragic 2007 collapse of Minneapolis's I-35W bridge spurred additional investment in the Garden State's bridges at the end of the decade.

But the insolvency of New Jersey's Transportation Trust Fund, which not only provides dedicated state funding to transportation projects, but also serves as the primary source of matching funds for hundreds of millions of dollars in federal transportation funding, threatens to derail that progress. Without a sustainable source of long-term funding, New Jersey may have to defer critical bridge replacement, rehabilitation, and repair projects, and its backlog of deficient bridges will likely grow.

Recommendations

1. Identify a new long-term sustainable funding solution to the Transportation Trust Fund revenue crisis.
2. Continue the state's fix it first policy by fixing existing infrastructure before building new roads and bridges.
3. Require NJDOT to make significant and documented progress on reducing the backlog of deficient bridges.
4. Maintain funding for transit projects and operations in order to curb traffic and reduce future wear-and-tear on bridges and other infrastructure.
5. Redirect state ARC funding for transit projects and bridge and road repair.



The Pulaski Skyway, with the lowest sufficiency rating of any major bridge in New Jersey, provides a crucial link through Jersey City. Photo from Wikipedia.

New Jersey's Worst Bridges

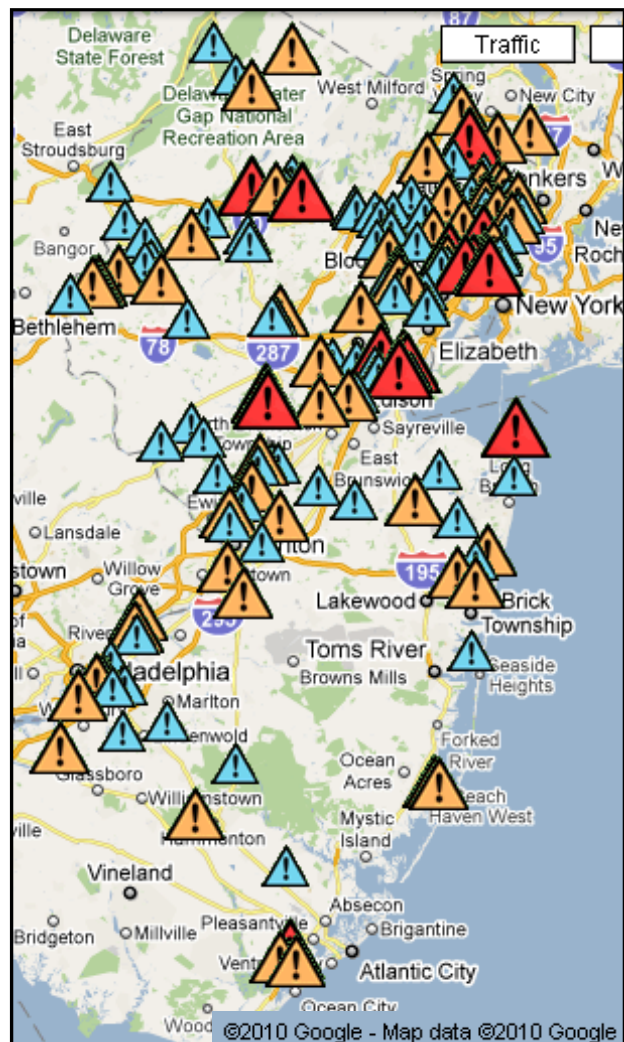
Nearly 8 million cars and trucks cross New Jersey's 200 structurally deficient bridges every day. Not surprisingly, the state's structurally deficient bridges are concentrated in heavily populated Northern New Jersey, with Bergen County topping the list at 26 structurally deficient bridges and Essex and Morris Counties at 20 and 19, respectively.

But as a percentage of total major bridges, rural Sussex and Warren coun-

ties, each with far fewer major bridges than their more urbanized neighbors, rank at the top with 14 percent of major bridges rated structurally deficient.

A Google Map (see below) showing the locations and additional details for each structurally deficient major bridge in the state is available at www.tstc.org/reports/bandage.

County	All Major Bridges	Structurally Deficient Bridges	Percent Structurally Deficient
Atlantic	157	6	4%
Bergen	544	26	5%
Burlington	179	3	2%
Camden	260	12	5%
Cape May	36	2	6%
Cumberland	45	0	0%
Essex	503	20	4%
Gloucester	171	4	2%
Hudson	190	15	8%
Hunterdon	96	4	4%
Mercer	272	14	5%
Middlesex	626	17	3%
Monmouth	331	8	2%
Morris	308	19	6%
Ocean	125	6	5%
Passaic	293	10	3%
Salem	46	0	0%
Somerset	178	8	4%
Sussex	36	5	14%
Union	318	10	3%
Warren	91	13	14%
Statewide	4,805	202	4%



TSTC ranked New Jersey's major structurally deficient bridges according to their sufficiency rating (see methodology section at the end of this report for an explanation of this metric). Eighteen of those bridges had a sufficiency rating of less than 25 percent, indicating that they are a high priority for replacement or rehabilitation. Those eighteen bridges have an average age of 63 years (taking into ac-

count reconstructions) and together, carry almost 660,000 cars and trucks daily. The table below lists those 18 bridges and includes well-known structures infamous for their potholes and craters, such as the Pulaski Skyway, as well as lesser-known bridges such as the Route 46 bridge over NJ TRANSIT in Dover.

Facility Carried by Structure	Waterway, Road, Rail line, or other feature crossed	City	Year Built or Reconstructed	Avg. Daily Traffic	Sufficiency Rating
RT 1&9	Passaic River, NJ Tpk, Conrail	Newark	1984	72,100	2.0%
RT 1&9	Passaic and Hackensack Rivers	Jersey City	1984	72,100	2.0%
MIDDLESEX AVE	Port Reading Secondary RR	Metuchen	1922	22,372	2.0%
RT 36	Shrewsbury River, Bay Ave	Highlands	1960	21,746	2.0%
RT 1&9T	RR, St Paul & Larch Ave	Jersey City	1928	43,100	2.8%
RT 139	Former Erie Lackawanna RR	Jersey City	1927	65,770	6.0%
N. MAPLE AVE	Hohokus Brook	Ho-Ho-Kus	1926	18,267	7.0%
RT 139 EB UPPER	Rt 139	Jersey City	1977	23,260	9.2%
RT 206	CSX RR	Montgomery	1918	19,400	9.2%
RT 21 SB	Rt 21 NB Viaduct	Newark	1953	44,460	11.0%
RT 139 EB	I-78 & Local Roads	Jersey City	1968	32,900	16.2%
RT 3 EB	Hackensack River, Meadowland Pkwy	East Rutherford	1964	77,698	17.0%
RT 52	Ship Channel	Ocean City	1933	24,900	17.4%
RT 35	Rt 440	Perth Amboy	1972	25,445	18.1%
RT 46	DL&W RR, W Blackwell St	Dover	1929	16,830	20.2%
RT 206	Crusers Brook	Montgomery	1925	20,000	21.8%
RT 183	NJ TRANSIT - Morris Line	Netcong	1930	15,700	24.6%
GS PARKWAY RAMP Y	Rt 9 SB, Ramp M	Woodbridge	1953	42,000	24.7%

The Looming Funding Crisis

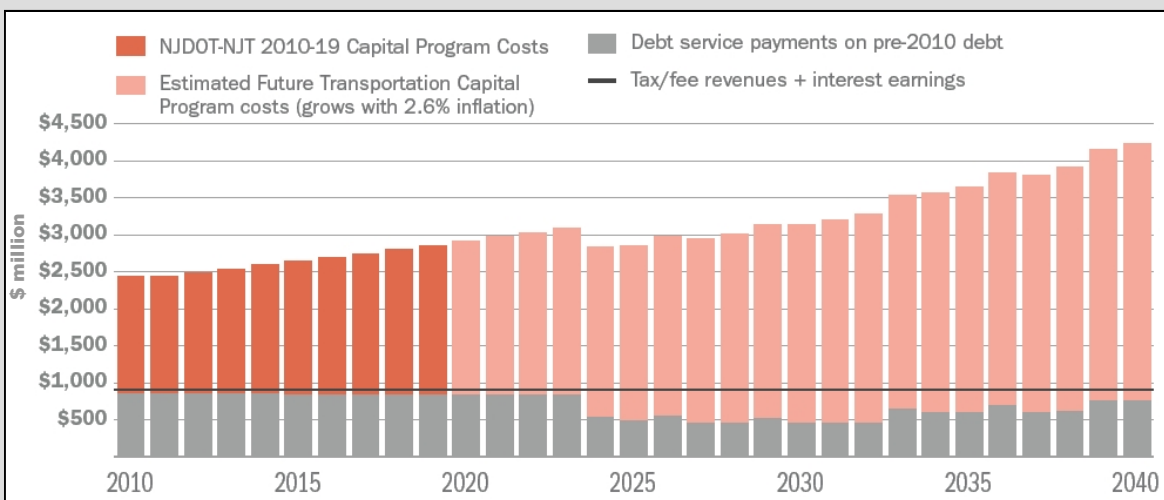
Repair projects for nearly all of these structures are included in recent NJDOT capital plans, indicating that the state recognizes the need to rehabilitate or reconstruct the bridges. But in most cases, limited funding amounts have been designated only for a portion of the necessarily complicated project. In some cases, such as with the Pulaski Skyway, NJDOT is just beginning to study options for how to proceed with the project. Importantly, the amounts included in the capital plans indicate only planned spending, not ac-

tual obligations made. And no firm spending levels have yet been proposed for FY 2012.

That said, TSTC's preliminary analysis of the fiscal year 2011 capital program suggests that under the current leadership of Commissioner James Simpson, NJDOT has made addressing the state's backlog of deficient bridges a top priority. The DOT portion of that capital program sets aside more than \$675 million, equal to 30 percent of total funding, for bridge assets,

Transportation Trust Fund Headed for Bankruptcy

New Jersey's Transportation Trust Fund is funded through annual appropriations from gas tax receipts and other transportation-related fees. But with the state gas tax among the lowest in the country, and last increased in 1988, New Jersey has covered the gap through decades of increasingly reckless borrowing, bonding, and refinancing. That bill has come due, and as of July 2011 annual debt service obligations will entirely wipe out revenues, leaving no money in the TTF for capital projects. As the chart below illustrates, without a new source of revenue, New Jersey faces decades of extremely limited funding to meet its critical infrastructure needs.



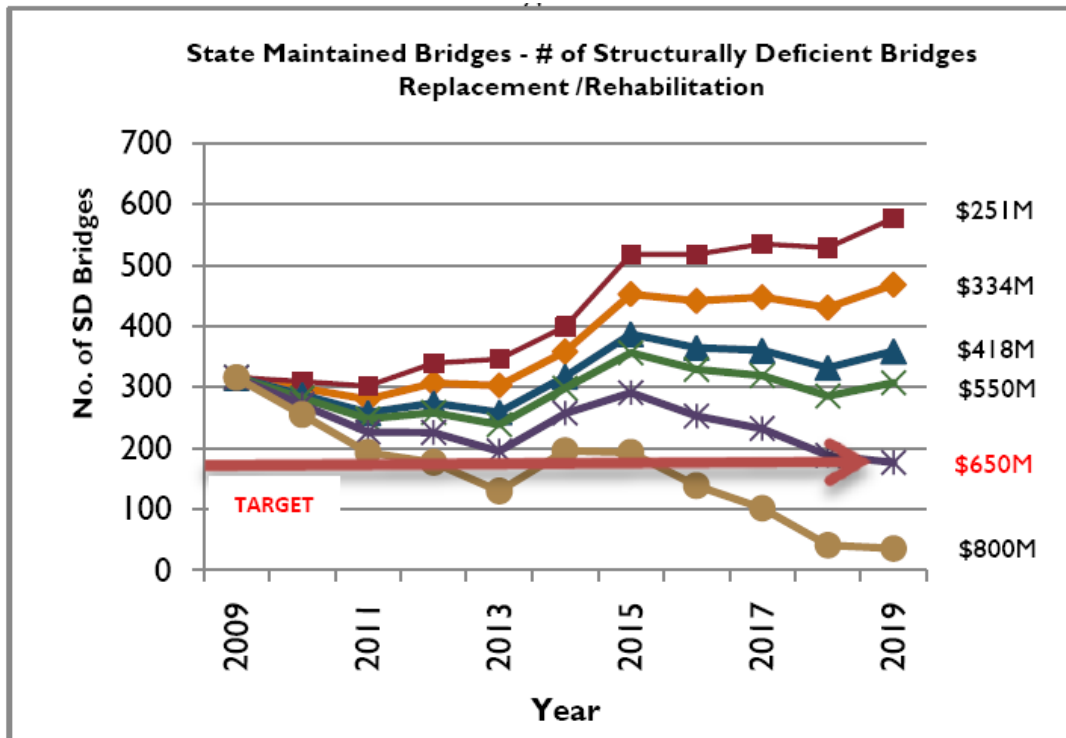
Source: RPA. Spiral of Debt: The Unsustainable Structure of New Jersey's Transportation Trust Fund. February, 2010.

up from just 24 percent in fiscal year 2010. (Though as noted above, many of the most critical projects lack funding for FY 2011.)

Unfortunately, the impending collapse of the Transportation Trust Fund (see box above) threatens future investments in the state's infrastructure.

New Jersey DOT's FY 2011-2020 State-wide Capital Investment Strategy (SCIS) suggests that achieving a 50 percent reduction in the backlog of deficient bridges will require a sustained investment of \$650 million annually. But even that relatively high level of funding will leave the

state with a significant number of deficient bridges. As the chart below shows, eliminating the backlog of deficient bridges requires more than \$800 million in annual bridge spending. Earlier NJDOT estimates (from the FY 2008-2011 SCIS) stated that at least \$1.7 billion in annual spending would be required to eliminate the state's backlog. Either way, even a slight drop in spending—a scenario which will almost certainly come to pass without new revenue for the Transportation Trust Fund—threatens to undermine continued progress on repairing deficient bridges.



Source: NJDOT. Statewide Capital Investment Strategy, FY 2011-2012; page 18.

Recommendations

Clearly, New Jersey needs to find a long-term and sustainable source of revenue to maintain adequate levels of funding under the Transportation Trust Fund and continue to make progress on improving the Garden State's bridges. Decades of irresponsible borrowing have brought the state's transportation capital program to the absolute brink of bankruptcy, and no bandage solution will resolve the crisis. TSTC proposes the following recommendations:

- 1. Identify new long-term sustainable revenue sources for the Transportation Trust Fund.** Policy-makers need to look at a range of potential new sources, ensuring that the burden of raising revenue is spread evenly among all who benefit from New Jersey's transportation network. Good options include a significant increase in the state gas tax and dedicating a greater portion of Turnpike and Parkway tolls to the TTF.
- 2. Prioritize fixing existing infrastructure over building new roads and bridges.** New Jersey has long been seen as a national model for embracing a "fix-it-first" transportation investment strategy. But in recent years the state has shown signs of backsliding, with an increasing share of the capital plan dedicated to new and expanded highways. Given the backlog of repair needs and the state's transportation funding crisis, New Jersey would be prudent to refocus NJDOT on this policy.
- 3. Require progress on reducing the backlog of deficient bridges.** As with the 2000 Congestion Relief and Transportation Trust Fund Renewal Act, any new renewal legislation should include provisions requiring that the state make significant and documented progress on improving bridges.
- 4. Ensure continued and significant funding for transit and other alternatives.** Beyond repairing and reconstructing deficient bridges, the state needs to lessen traffic in order to reduce the wear and tear on bridges. New Jersey's robust transit system helps accomplish that goal by keeping traffic in check. Continued support for transit projects and operations is critical to maintaining the state's infrastructure in a state of good repair.
- 5. Redirect ARC tunnel funding for bridge repair and transit projects.** The killing of the ARC tunnel project by Governor Christie leaves billions in transportation funds up for grabs. Rather than shift those funds to wasteful and ultimately ineffective road-widening projects, Governor Christie should dictate that the funds be used for other critical transit projects and service and to address the state's backlog of bridge and road repair projects.

Methodology

Structurally deficient bridges are those that have a condition rating of 4 (“poor condition”) or worse for their deck, superstructures, substructures, culverts or retaining walls, or an appraisal rating of 2 (“basically intolerable, requiring a high priority of replacement”) or less for their structural condition or waterway adequacy.

States are required to submit to the Federal Highway Administration details on bridge conditions on an annual basis. A key component of that data is the sufficiency rating, a numerical value calculated from 23 different evaluation factors examining both the condition and use of a particular bridge. The factors considered in determining a sufficiency rating can be grouped into four categories, each weighted according to their perceived importance to the overall rating: Structural Adequacy and Safety (55% maximum); Serviceability and Functional Obsolescence (30% maximum); Essentiality for Public Use (15% maximum); and Special Reductions (detour length, traffic safety features, and structure type-13% maximum).

Sufficiency ratings are used to determine which bridges are eligible for federal bridge replacement or rehabilitation funding. Bridges rated structurally deficient and with a sufficiency rating of less than 50 percent may receive federal funds for replacement, while those with a sufficiency rating of less than 80 percent are eligible for rehabilitation funding.

A low sufficiency rating doesn't necessarily indicate that a bridge is in danger of collapse. But it does help states prioritize bridge repair and replacement projects.

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