

Top 10 Takeaways

- 220,000 U.S. bridges—36 percent—need repair work. 79,500 need replacement.
- More than 45,000 bridges are in poor condition and were classified as “structurally deficient” (SD) in 2020, decreasing by 1,140 structures compared to 2019.
- The good news is that the number of SD bridges has declined for the last five years. This is tempered by the trend of more bridges being downgraded from good to fair condition over the same time period.
- The number of bridges rated in good condition declined by 1,155, from 279,582 structures in 2019 to 278,427 in 2020.
- At the current pace, it would take nearly 40 years to repair the current backlog of SD bridges.
- The estimated cost to repair or replace the 45,000 SD bridges, based on average price data from the U.S. Department of Transportation (DOT), would be \$41.8 billion.
- A SD bridge, on average, is nearly 68 years old, compared to 32 years for a bridge in good condition and 54 years for a bridge in fair condition.
- Motorists drive cross SD bridges 171.5 million times daily.
- 17,643 Interstate highway bridges—nearly one-third—have identified repair needs.
- State-by-state and congressional district data: artbabridgereport.org.

Overview

More than one-third, or 220,000, of the nation’s 618,000 bridges need structural repair, rehabilitation work or replacement, according to the American Road & Transportation Builders Association’s (ARTBA) seventh annual analysis of the latest U.S. DOT’s National Bridge Inventory (NBI) database.

If placed end-to-end, these bridges would stretch over 6,000 miles—long enough to travel from Atlanta to Los Angeles, and continue up to Deadhorse, Alaska, the furthest point north on the state’s highway system.

Bridge inspections generally occur once every 24 months. Bridge ratings are updated as inspections are completed—each year some bridges are classified as poor or structurally deficient and others are removed from that category as they undergo repair, rehabilitation or replacement.

As part of the bridge inspections, key parts of the structure, including the bridge culvert, deck, superstructure and substructure are rated on a scale of 0 to 9, with 9 being excellent condition.

With a rating of 4 or below the bridge is considered in “poor” condition.

See the chart on page 5 for FHWA’s definition of “structurally deficient,” “good,” “fair” and “poor” condition.

The data shows that at least one key condition rating was down for 40,000 structures in 2020, compared to the previous inspection reports. This indicates some deterioration in the bridge culvert, deck, superstructure or substructure area. Of those bridges, nearly 8,700 saw a rating decline to a 5, which is just one step above “poor” condition.

U.S. Bridge Inventory, by Rating				
	2019	2020	Change 19 to 20	% Change 19 to 20
Good	279,582	278,427	-1,155	-0.4%
Fair	291,339	294,972	3,633	1.2%
Poor (Structurally Deficient)	46,163	45,023	-1,140	-2.5%
Total Number of Bridges	617,084	618,422	1,338	0.2%
Does not include Guam and U.S. Virgin Islands				

Structurally Deficient

More than 45,000 bridges are classified as structurally deficient (SD) and considered to be in poor or worse condition.

The estimated cost to repair or replace the 45,000 SD bridges, based on average price data from the U.S. DOT, is \$41.8 billion.

The length of these SD bridges, about 1,080 miles, spans the distance between Las Vegas and Seattle.

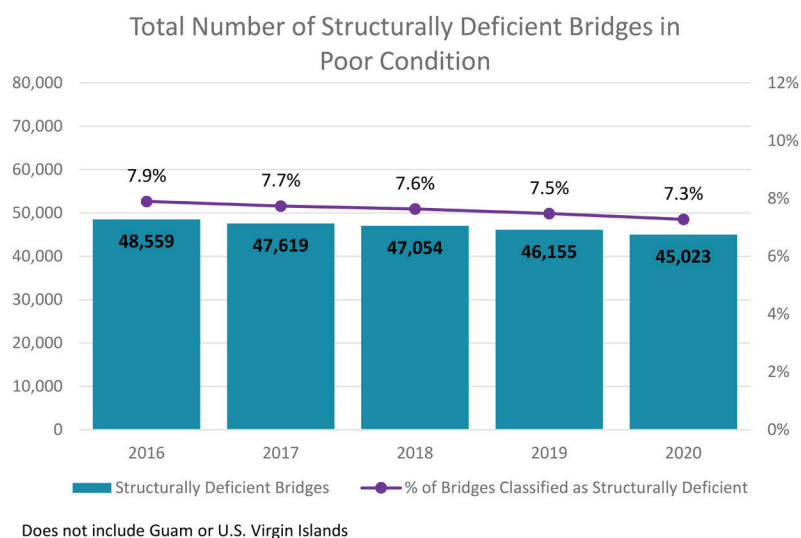
Motorists cross these compromised structures 171.5 million times every day, the data shows.

Nearly 89 percent of the SD bridges had the same rating in 2019. There were 4,938 bridges newly classified as SD. At least 3,736 bridges that were SD in 2019 were removed from that category last year.

Serious Condition or Worse

Of the SD bridges, nearly 11,200 are in “serious” (Rating #3) or worse condition. This includes 1,668 that are in “critical” condition (Rating #2), 440 that are in “imminent” failure (Rating #2) and 970 that are in “failed” condition (Rating #0) and are out of service.

The states with the most serious or worse condition are: Iowa (1,762 bridges), Oklahoma (922), Illinois (764), Pennsylvania (728), Missouri (700), and Louisiana (638).





Fair Condition

Nearly half of bridges—48 percent—are in fair condition. This means that the bridge shows some evidence of minor deterioration or minor cracks. The number of bridges in fair condition grew by 3,633 in 2020, reaching 294,972 structures.

Rankings

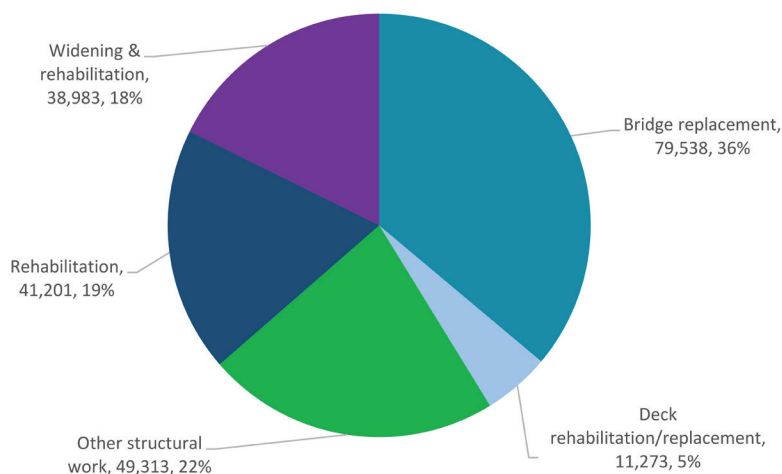
Some state rankings changed this year as improvements have been made. The states with the most bridges in poor condition, as a percent of their total bridge inventory are:

1. West Virginia: 21 percent (2019: Ranked #2)
2. Iowa: 19.1 percent (2019: #3)
3. Rhode Island: 19 percent (2019: #1)
4. South Dakota: 17.7 percent (2019: #4)
5. Pennsylvania: 14.6 percent (2019: #5)
6. Maine: 12.7 percent (2019: #7)
7. Louisiana: 12.7 percent (2019: #6)
8. Puerto Rico: 12.1 percent (2019: #8)
9. Michigan: 10.8 percent (2019: #9)
10. North Dakota: 10.3 percent (2019: #10)

The states with the largest number of bridges in poor condition are:

1. Iowa: 4,571 bridges (2019: Ranked #1)
2. Pennsylvania: 3,353 bridges (2019: #2)
3. Illinois: 2,374 bridges (2019: #3)
4. Oklahoma: 2,326 bridges (2019: #4)
5. Missouri: 2,190 bridges (2019: #5)
6. New York: 1,702 bridges (2019: #7)
7. Louisiana: 1,634 bridges (2019: #9)
8. West Virginia: 1,545 bridges (2019: #10)
9. California: 1,536 bridges (2019: #6)
10. North Carolina: 1,460 bridges (2019: #8)

Bridges Needing Work By Type of Repair



States are also ranked based on the percent of their bridge deck area that is in poor condition. This captures states where the number of SD bridges may be lower, but these could be larger structures with more lanes and traffic. These states are:

1. Rhode Island: 20.5 percent (2019: Ranked #1)
2. West Virginia: 15.2 percent (2019: #2)
3. Illinois: 12.2 percent (2019: #3)
4. Massachusetts: 12 percent (2019: #4)
5. Iowa: 10 percent (2019: #7)
6. South Dakota: 9.9 percent (2019: #10)
7. New York: 9.6 percent (2019: #6)
8. Washington, D.C.: 9.5 percent (2019: #8)
9. Puerto Rico: 9.5 percent (2019: #9)
10. Missouri: 8.5 percent (2019: #12)

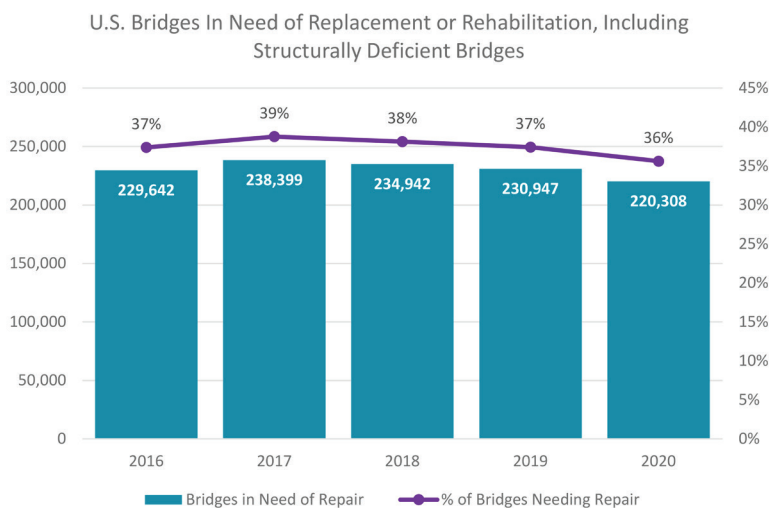
New Bridges Ranked in Poor Condition

Some bridges newly rated as structurally deficient, or in poor condition, in 2020 include:

- U.S. Highway 101 over the Los Angeles River, California
- Newburgh-Beacon Bridge over the Hudson River in Orange County, New York
- Corpus Christi Harbor Bridge in Nueces County, Texas
- Sidney Sherman Bridge on Interstate 610 over the Houston Ship Channel in Harris County, Texas
- US 377 over Lake Texoma on the border between Texas and Oklahoma
- J. Stanley Tunney Bridge over the Toms River in Ocean County, New Jersey
- US 90 East Bound over San Jacinto River in Harris County, Texas
- McClugage Bridge (Westbound) and the Cedar Street Bridge over the Illinois River in Peoria, Illinois
- Both spans of the I-494 Minnesota River Crossing in Hennepin County, Minnesota
- Sacramento River Bridge in Glenn County, California
- Jefferson Barracks Bridge connecting St. Louis County, Missouri and Monroe County, Illinois
- Central Avenue Bridge over the Kansas River in Wyandott, Kansas
- Duwamish River Bridge (Westbound) in King, Washington



Bridge Conditions Report



U.S. DOT Definitions and National Bridge Inventory Condition Ratings for Decks, Superstructures, Substructures and Culverts					
Overall Bridge Rating	Condition Rating	U.S. DOT Definition	2019 Bridges Grouped by Lowest Rating Received for One of Key Structural Elements	2020 Bridges Grouped by Lowest Rating Received for One of Key Structural Elements	Change 19 to 20
"Good" condition	9	Excellent Condition	10,431	10,079	-352
	8	Very Good Condition	59,385	56,812	-2,573
	7	Good Condition	209,759	211,536	1,777
"Fair" condition	6	Satisfactory Condition - structural elements show some minor deterioration.	179,751	182,175	2,424
	5	Fair Condition - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.	111,565	112,797	1,232
"Poor" condition or Structurally Deficient	4	Poor Condition - advanced section loss, deterioration, spalling, or scour.	34,644	33,825	-819
	3	Serious Condition - loss of section, deterioration, spalling or scour have seriously affected primary structural components.	8,396	8,123	-273
	2	Critical Condition - advanced deterioration of primary structural elements.	1,733	1,668	-65
	1	"Imminent" Failure Condition - major deterioration or section loss present in critical structural components.	415	440	25
	0	Failed Condition - out of service.	970	967	-3

FHWA's Pavement and Bridge Condition Performance Measures final rule explains that a bridge condition rating is determined by the lowest rating of the National Bridge Inventory condition ratings for the deck, superstructure, substructure or culvert. If the lowest rating is greater or equal to 7, the bridge is classified as Good, a rating of 5 or 6 is Fair and 4 or below is Poor.