

Bridging the Gap: Restoring and Rebuilding the Nation's Bridges

July 2008

U.S. Bridges Per State, December 2007

	Number of Bridges	Structurally Deficient	Functionally Obsolete	Total Number of Deficient Bridges	Percentage of Total
Alabama	15,881	1,899	2,158	4,057	25.5%
Alaska	1,229	155	179	334	27.2%
Arizona	7,348	181	600	781	10.6%
Arkansas	12,531	997	1,908	2,905	23.2%
California	24,184	3,140	3,837	6,977	28.8%
Colorado	8,366	580	824	1,404	16.8%
Connecticut	4,175	358	1,042	1,400	33.5%
Delaware	857	20	112	132	15.4%
District of Columbia	245	24	128	152	62.0%
Florida	11,663	302	1,692	1,994	17.1%
Georgia	14,563	1,028	1,888	2,916	20.0%
Hawaii	1,115	142	358	500	44.8%
Idaho	4,104	349	452	801	19.5%
Illinois	25,998	2,501	1,840	4,341	16.7%
Indiana	18,494	2,030	2,004	4,034	21.8%
Iowa	24,776	5,153	1,455	6,608	26.7%
Kansas	25,461	2,991	2,372	5,363	21.1%
Kentucky	13,637	1,362	2,928	4,290	31.5%
Louisiana	13,342	1,780	2,180	3,960	29.7%
Maine	2,387	349	468	817	34.2%
Maryland	5,127	388	980	1,368	26.7%
Massachusetts	5,018	585	1,987	2,572	51.3%
Michigan	10,923	1,584	1,304	2,888	26.4%
Minnesota	13,067	1,156	423	1,579	12.1%
Mississippi	17,007	3,002	1,315	4,317	25.4%
Missouri	24,071	4,433	3,108	7,541	31.3%
Montana	4,980	473	541	1,014	20.4%
Nebraska	15,475	2,382	1,241	3,623	23.4%
Nevada	1,705	47	156	203	11.9%
New Hampshire	2,364	383	358	741	31.3%
New Jersey	6,448	750	1,501	2,251	34.9%
New Mexico	3,850	404	294	698	18.1%
New York	17,361	2,128	4,518	6,646	38.3%
North Carolina	17,783	2,272	2,787	5,059	28.4%
North Dakota	4,458	743	249	992	22.3%
Ohio	27,998	2,862	4,001	6,863	24.5%
Oklahoma	23,524	5,793	1,614	7,407	31.5%
Oregon	7,318	514	1,155	1,669	22.8%
Pennsylvania	22,325	5,802	3,934	9,736	43.6%
Rhode Island	748	164	232	396	52.9%
South Carolina	9,221	1,260	808	2,068	22.4%
South Dakota	5,924	1,216	261	1,477	24.9%
Tennessee	19,838	1,325	2,776	4,101	20.7%
Texas	50,271	2,186	7,851	10,037	20.0%
Utah	2,851	233	254	487	17.1%
Vermont	2,712	500	467	967	35.7%
Virginia	13,417	1,208	2,234	3,442	25.7%
Washington	7,651	400	1,661	2,061	26.9%
West Virginia	7,001	1,058	1,515	2,573	36.8%
Wisconsin	13,798	1,302	789	2,091	15.2%
Wyoming	3,030	389	231	620	20.5%
Puerto Rico	2,146	241	822	1,063	49.5%
Totals	599,766	72,524	79,792	152,316	25.4%

Source: National Bridge Inventory, Federal Highway Administration

How Are Bridge Conditions Rated?

According to the National Bridge Inspection Standards (NBIS), ratings are used to describe an existing bridge or culvert compared with its condition if it were new. Bridges are rated from 0 (failed condition) to 9 (excellent) on their “general” condition and on the condition of their primary components. The following components are rated:

- The bridge deck, including the wearing surface;
- The superstructure, including all primary load-carrying members and connections; and
- The substructure, including the abutments and all piers.

A condition rating of 4 or less on one of these items classifies a bridge as structurally deficient.

To be eligible for federal aid to replace a bridge, it must have a sufficiency rating of less than 50 and be either functionally obsolete or structurally deficient. To be eligible for repair, a bridge must have a sufficiency rating of less than 80. In both instances, federal aid must be matched by a state/local contribution. In the case of bridge repairs, if federal aid is used to repair a bridge, a jurisdiction cannot apply for federal assistance for any further repairs to this bridge for 10 years

What Does That Term Mean?

Bridge Sufficiency Rating

A bridge sufficiency rating includes a multitude of factors: inspection results of the structural condition of the bridge, traffic volumes, number of lanes, road widths, clearances, and importance for national security and public use, as examples.

The sufficiency rating is calculated by using a formula defined by the Federal Highway Administration. This rating indicates a bridge’s sufficiency to remain in service. The formula places 55 percent of its value on the structural condition of the bridge, 30 percent on its serviceability and obsolescence, and 15 percent on whether it is essential to public use.

The point calculation is based on a 0–100 scale and compares the existing bridge to a new bridge designed to current engineering standards.

The bridge’s sufficiency rating provides an overall measure of the bridge’s condition and is used to determine eligibility for federal funds.

Functionally Obsolete

Of the nation’s 590,000 bridges, a total of 73,000, about 12 percent, are rated as functionally obsolete.

A functionally obsolete bridge is one that was built to standards that are not used today. **These bridges are not automatically rated as structurally deficient, nor are they unsafe.** Functionally obsolete bridges are those that do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand, or those that may be occasionally flooded.

A functionally obsolete bridge is similar to an older house. A house built in 1950 might be perfectly acceptable to live in, but it does not meet all of today’s building codes. Yet, when it comes time to consider upgrading that house or making improvements, the owner must look at ways to bring the structure up to current standards.

Structurally Deficient

Of the nation’s 590,000 bridges, some 80,000 are rated as structurally deficient, about 13 percent.

Bridges are considered structurally deficient if:

- Significant load-carrying elements are found to be in poor condition due to deterioration, or
- The adequacy of the waterway opening provided by the bridge is determined to be extremely insufficient to the point of causing intolerable traffic interruptions.

Every bridge constructed goes through a natural deterioration or aging process, although each bridge is unique in the way it ages.

The fact that a bridge is classified under the federal definition as “structurally deficient” does not imply that it is unsafe. A structurally deficient bridge, when left open to traffic, typically requires significant maintenance and repair to remain in service and eventual rehabilitation or replacement to address deficiencies. To remain in service, structurally deficient bridges are often posted with weight limits to restrict the gross weight of vehicles using the bridges.