

Highlights from FHWA's 2018 National Bridge Inventory Data

- Of the 11,228 bridges in the state, 1,196, or 10.7 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 1,251 bridges classified as structurally deficient in 2014.
- 62 of the structurally deficient bridges are on the Interstate Highway System.
- 1,206 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 2,627 bridges at an estimated cost of \$1.7 billion.
- This compares to 2,749 bridges that needed work in 2014.

Bridge Inventory

Type of Bridge ⁴	All Bridges			Structurally Deficient Bridges		
	Total Number	Area (sq. meters)	Daily Crossings	Total Number	Area (sq. meters)	Daily Crossings
Rural Bridges						
Interstate	402	367,407	7,936,065	12	7,530	265,994
Other principal arterial	638	411,938	5,679,077	24	9,909	117,881
Minor arterial	618	298,832	3,175,058	46	21,013	182,163
Major collector	2,089	686,665	4,417,648	260	61,576	494,383
Minor collector	543	138,372	1,094,013	57	9,353	29,227
Local	3,164	559,808	1,539,868	465	54,168	126,484
Urban Bridges						
Interstate	832	1,395,800	29,970,603	50	199,612	1,879,088
Freeway/expressway	319	336,206	8,370,127	12	12,989	441,036
Other principal arterial	713	879,390	15,617,613	67	99,711	1,429,972
Minor arterial	821	748,942	9,726,645	103	72,675	1,308,193
Collector	478	290,712	3,381,009	40	28,253	194,956
Local	611	331,607	2,950,940	60	22,762	190,440
Total	11,228	6,445,678	93,858,664	1,196	599,552	6,659,817

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	666	\$331,938	1,982,570	144,354
Widening & rehabilitation	77	\$52,512	1,306,418	44,043
Rehabilitation	947	\$479,615	5,470,860	516,099
Deck rehabilitation/replacement	771	\$784,532	9,657,613	752,526
Other work	166	\$55,951	650,720	84,617
Total	2,627	\$1,704,547	19,068,181	1,541,639



Top Most Traveled Structurally Deficient Bridges in Michigan

County	Year Built	Daily Crossings	Type of Bridge	Location
Wayne	1954	146,000	Urban minor arterial	Second Blvd over I-94
Wayne	1963	114,656	Urban freeway/expressway	M-39 over Rouge River
Wayne	1967	100,492	Urban Interstate	I-75 over Rouge R, Dearborn St & RR
Wayne	1967	100,492	Urban Interstate	I-75 over Fort St
Macomb	1955	82,735	Urban other principal arterial	Mound Rd over Sharkey Drain
Wayne	1970	78,863	Urban Interstate	I-96 WB Main Rdwy over M-39 (Southfield Expr)
Kalamazoo	1956	69,260	Urban Interstate	I-94 over Portage Road
Oakland	1964	67,700	Urban freeway/expressway	M-39 (Ramp H) over M-10 WB (Ramp G)
Oakland	1964	65,985	Urban Interstate	I-75 SB over M-150 (Rochester Rd.)
Wayne	1962	65,737	Urban Interstate	I-94 WB over Ecorse Rd

About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), released March 15, 2019. Note that specific conditions on bridges may have changed as a result of recent work or updated inspections.

Effective January 1, 2018, FHWA changed the definition of structurally deficient as part of the final rule on highway and bridge performance measures, published May 20, 2017 pursuant to the 2012 federal aid highway bill Moving Ahead for Progress in the 21st Century Act (MAP-21). Two measures that were previously used to classify bridges as structurally deficient are no longer used. This includes bridges where the overall structural evaluation was rated in poor or worse condition, or where the adequacy of waterway openings was insufficient.

The new definition limits the classification to bridges where one of the key structural elements—the deck, superstructure, substructure or culverts, are rated in poor or worse condition. During inspection, the conditions of a variety of bridge elements are rated on a scale of 0 (failed condition) to 9 (excellent condition). A rating of 4 is considered “poor” condition.

Cost estimates have been derived by ARTBA, based on 2017 average bridge replacement costs for structures on and off the National Highway System, [published by FHWA](#). Bridge rehabilitation costs are estimated to be 68 percent of replacement costs. A bridge is considered to need repair if the structure has identified repairs as part of the NBI, a repair cost estimate is supplied by the bridge owner or the bridge is classified as structurally deficient. Please note that for a few states, the number of bridges needing to be repaired can vary significantly from year to year, and reflects the data entered by the state.

Bridges are classified by FHWA into types based on the functional classification of the roadway on the bridge. Interstates comprise routes officially designated by the Secretary of Transportation. Other principal arterials serve major centers of urban areas or provide mobility through rural areas. Freeways and expressways have directional lanes generally separated by a physical barrier, and access/egress points generally limited to on- and off-ramps. Minor arterials serve smaller areas and are used for trips of moderate length. Collectors funnel traffic from local roads to the arterial network; major collectors have higher speed limits and traffic volumes and are longer in length and spaced at greater intervals, while minor collectors are shorter and provide service to smaller communities. Local roads do not carry through traffic and are intended for short distance travel.