

Highlights from FHWA's 2019 National Bridge Inventory Data

- Of the 4,329 bridges in the state, 462, 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 528 bridges classified as structurally deficient in 2015.
- The deck area of structurally deficient bridges accounts for 4.7 percent of total deck area on all structures.
- 2 of the structurally deficient bridges are on the Interstate Highway System.
- 822 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 1,402 bridges at an estimated cost of \$443.7 million.
- This compares to 1,458 bridges that needed work in 2015.

Bridge Inventory

Type of Bridge	All Bridges			Structurally Deficient Bridges		
	Total Number	Area (sq. meters)	Daily Crossings	Total Number	Area (sq. meters)	Daily Crossings
Rural Bridges						
Interstate	147	80,957	654,220	2	288	6,125
Other principal arterial	357	179,694	674,961	5	1,948	9,260
Minor arterial	253	103,782	253,570	7	3,169	6,740
Major collector	879	246,989	255,506	28	6,733	4,370
Minor collector	11	2,725	1,095	2	471	230
Local	2,421	360,428	210,135	413	38,977	9,403
Urban Bridges						
Interstate	59	82,200	757,935	0	0	0
Freeway/expressway	0	0	0	0	0	0
Other principal arterial	79	145,898	1,258,606	2	9,120	26,250
Minor arterial	66	82,693	373,024	0	0	0
Collector	22	14,130	57,730	0	0	0
Local	35	9,055	39,247	3	282	370
Total	4,329	1,308,551	4,536,029	462	60,988	62,748

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	542	\$165	34,435	86,713
Widening & rehabilitation	415	\$107	143,897	83,086
Rehabilitation	363	\$103	258,096	81,082
Deck rehabilitation/replacement	23	\$30	73,205	21,962
Other work	59	\$39	113,248	32,838
Total	1,402	\$444	622,881	305,682

Top Most Traveled Structurally Deficient Bridges in North Dakota

County	Year Built	Daily Crossings	Type of Bridge	Location
Grand Forks	1963	21,500	Urban other principal arterial	US Highway 2 over Red River of The North
Grand Forks	1928	5,400	Rural arterial	US Highway 2 over Saltwater Coulee
Cass	1960	4,750	Urban other principal arterial	US Highway 10 over I-94/W.Fargo Int.
Grand Forks	1950	4,650	Rural Interstate	Interstate 29 over County Drain No 11
Cass	1960	2,650	Rural minor arterial	ND Highway 18 over I-94/Casselton Int
Traill	1977	2,010	Rural arterial	ND Highway 2 over Goose River
Pembina	1958	1,475	Rural Interstate	Interstate 29 over Drain Ditch
Stark	1979	1,460	Rural minor arterial	ND Highway 22 over Antelope Creek
Traill	1971	830	Rural arterial	ND Highway 2A over BNRR Separation overhead
Cass	1985	700	Rural minor arterial	ND Highway 18 over Maple River

About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), released April 2, 2020. 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 surface transportation law 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 2018 and 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.