

Highlights from FHWA's 2023 National Bridge Inventory Data

- The state has identified needed repairs on 1,342 bridges.
- Over the life of the IIJA, North Dakota will receive a total of \$225.0 million in bridge formula funds, which will help make needed repairs.
- North Dakota currently has access to \$90.0 million of that total, and has committed \$52.7 million towards 94 projects as of June 2023.
- Of the 4,280 bridges in the state, 455, or 10.6 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 462 bridges classified as structurally deficient in 2019.

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	146	90,611	665,951	4	2,783	14,050
Other principal arterial	368	194,644	740,358	7	2,690	5,795
Minor arterial	254	110,651	254,537	8	5,036	5,800
Major collector	889	250,865	277,715	26	8,054	7,900
Minor collector	12	3,281	1,295	2	796	400
Local	2,351	341,935	109,085	405	41,019	10,469
Urban Bridges						
Interstate	59	81,672	757,935	0	0	0
Freeway/expressway	0	0	0	0	0	0
Other principal arterial	79	147,093	800,111	1	7,880	21,500
Minor arterial	65	86,782	373,024	1	1,011	1,925
Collector	23	15,764	58,070	0	0	0
Local	34	11,405	45,907	1	133	20
Total	4,280	1,334,702	4,083,988	455	69,403	67,859

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	491	\$168.2	33,622	84,215
Widening & rehabilitation	385	\$106.5	132,915	78,384
Rehabilitation	393	\$116.0	169,970	85,599
Deck rehabilitation/replacement	22	\$28.5	74,275	20,820
Other work	51	\$35.8	105,293	26,630
Total	1,342	\$455.0	516,075	295,648

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
Cass	1959	5,850	Rural Interstate	Interstate 94 over Maple River
Grand Forks	1950	4,650	Rural Interstate	Interstate 29 over County Drain No 11
Morton	1962	2,250	Rural Interstate	Interstate 94 over Co Hwy RR/Eagle Nest Int
Cass	1990	1,925	Urban minor arterial	North Broadway over Red River of The North
Cass	1971	1,750	Rural major collector	County Highway over Sheyenne River
Williams	1988	1,620	Rural major collector	ND Highway 40 over BNRR Sep overhead
Walsh	1959	1,500	Rural minor arterial	ND Highway 54 over Red River of The North
Nelson	1936	1,455	Rural arterial	US Highway 2 over BNRR Sep over
Billings	1964	1,300	Rural Interstate	Interstate 94 over Sheep Creek

About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), downloaded on February 1, 2023. Note that specific conditions on bridges may have changed because 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 2020 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.