

Highlights from FHWA's 2023 National Bridge Inventory Data

- The state has identified needed repairs on 5,415 bridges.
- Over the life of the IIJA, North Carolina will receive a total of \$493.5 million in bridge formula funds, which will help make needed repairs.
- North Carolina currently has access to \$197.4 million of that total, and has committed \$78.8 million towards 13 projects as of June 2023.
- Of the 18,817 bridges in the state, 1,336, or 7.1 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 1,714 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	333	305,780	7,254,570	13	14,448	355,470
Other principal arterial	923	1,058,448	9,164,575	23	56,878	208,425
Minor arterial	677	420,439	4,064,975	35	21,511	188,250
Major collector	1,751	968,991	5,028,739	128	136,397	369,540
Minor collector	1,395	469,265	2,038,882	105	30,316	104,188
Local	6,999	1,444,279	3,875,747	652	89,619	294,060
Urban Bridges						
Interstate	1,035	1,670,757	41,838,101	24	21,655	946,300
Freeway/expressway	680	1,067,628	15,657,527	32	28,230	1,065,900
Other principal arterial	917	950,342	17,250,953	43	45,483	719,550
Minor arterial	1,112	1,089,118	14,041,340	69	114,430	777,350
Collector	1,097	650,257	7,006,920	71	38,080	438,750
Local	1,898	668,894	5,747,558	141	35,516	316,269
Total	18,817	10,764,198	132,969,888	1,336	632,562	5,784,052

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	786	\$946.2	3,041,975	436,139
Widening & rehabilitation				
Rehabilitation	4,416	\$4,287.9	32,195,926	2,776,019
Deck rehabilitation/replacement				
Other work	213	\$78.2	278,560	55,987
Total	5,415	\$5,312.4	35,516,461	3,268,145

Top Most Traveled Structurally Deficient Bridges in North Carolina

County	Year Built	Daily Crossings	Type of Bridge	Location
Mecklenburg	1971	115,000	Urban Interstate	I277 & NC16 over US29/Nc49 (Graham St.)
Mecklenburg	1967	94,500	Urban Interstate	I277 & NC16 over Brevard Street
Mecklenburg	1967	94,500	Urban Interstate	I277 & NC16 over North College Street
Gaston	1962	80,000	Rural Interstate	I85 over Abernathy Creek
Forsyth	1964	79,000	Urban freeway/expressway	US52 over 25th Street
Forsyth	1964	79,000	Urban freeway/expressway	US52 over 28th Street
Forsyth	1958	73,000	Urban freeway/expressway	I40 Bus over Brushy Fork Creek
Forsyth	1959	66,000	Urban freeway/expressway	Nc67 over US421
Forsyth	1960	62,000	Urban freeway/expressway	US421 over Little Creek
Guilford	1968	52,000	Urban freeway/expressway	Sr2254 over Southern Railroad

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.