American Road & Transportation Builders Association

North Carolina Congressional District 12

- Of the 746 bridges in the counties of this district, 19, or 2.5 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 17 bridges classified as structurally deficient in 2020.
- Repairs are needed on 175 bridges in the district, which will cost an estimated $333.7 million.
- This compares to 157 bridges that needed work in 2020.
- The state has committed $55.5 thousand in IIJA bridge formula funds to support 1 project in the District.

21

Compared to 19 in 2023

in the nation in % of structurally deficient bridges

1. Iowa	19.0%
20. Montana	7.0%
21. North Carolina	7.0%
22. Hawaii	7.0%

11

Compared to 10 in 2023

in the nation in # of structurally deficient bridges

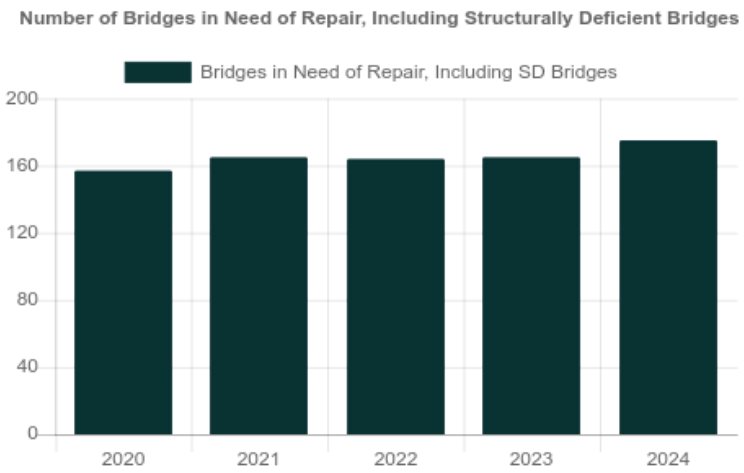
1. Iowa	4,544
10. Kansas	1,310
11. North Carolina	1,298
12. Michigan	1,281

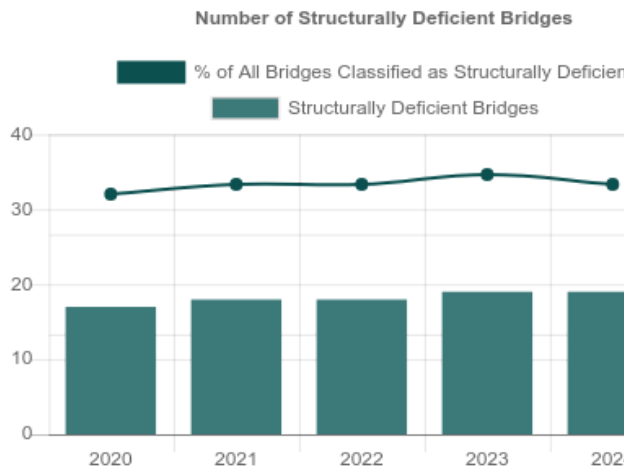
23

Compared to 22 in 2023

in the nation in % of structurally deficient bridge deck area

1. Rhode Island	14.0%
22. Montana	6.0%
23. North Carolina	6.0%
24. North Dakota	5.0%





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
Mecklenburg	1970	47,500	Urban Interstate	I277 SBL, US74 WBL over I77, US21
Mecklenburg	1970	47,500	Urban Interstate	I277 NBl, US74 EBL over I77, US21
Mecklenburg	1956	27,500	Urban other principal arterial	Nc49 over Southern Railroad
Mecklenburg	1970	22,000	Urban minor arterial	Sr4886 over US74
Mecklenburg	1972	21,500	Urban minor arterial	Beatties Ford Road over NC16 & Scl.RR
Mecklenburg	1956	14,000	Urban other principal arterial	Nc160 over Southern Railroad
Mecklenburg	1977	12,750	Urban minor arterial	SR1138 WBL over Sugar Creek
Mecklenburg	1960	12,000	Urban minor arterial	SR1441 over Steele Creek
Mecklenburg	1945	11,500	Urban collector	West Tyvola Rd. over Southern Railroad
Mecklenburg	1955	11,000	Urban collector	Sr2138 over Torrence Creek
Mecklenburg	1973	9,100	Urban local road	Davidson Street over I277 & NC16
Mecklenburg	1981	8,600	Urban collector	Sr2822 over Ut to Reedy Creek
Mecklenburg	1975	7,400	Urban collector	Sr5469 over Coffey Creek
Mecklenburg	1964	4,400	Urban collector	Sr2442 over S.Prong of Clark S Creek
Mecklenburg	1957	3,400	Urban local road	Westmont Drive over Southern Railroad
Mecklenburg	1988	100	Urban local road	Hanging Moss Trl over Ut to Duck Creek

Bridge Inventory: North Carolina

Type of Bridge	Number of Bridges	Area of All Bridges (sq. meters)	Daily Crossings on All Bridges	Number of Structurally Deficient Bridges	Area of Structurally Deficient Bridges (sq. meters)	Daily Crossings on Structurally Deficient Bridges
Rural Interstate	0	0	0	0	0	0
Rural arterial	0	0	0	0	0	0
Rural minor arterial	0	0	0	0	0	0
Rural major collector	0	0	0	0	0	0
Rural minor collector	1	83	4,000	0	0	0
Rural local road	8	1,580	10,950	0	0	0
Urban Interstate	223	318,045	11,569,357	5	8,524	399,000
Urban freeway/expressway	21	22,834	951,600	0	0	0
Urban other principal arterial	98	110,965	2,740,105	2	1,676	41,500
Urban minor arterial	96	107,164	1,918,450	4	4,294	68,250
Urban collector	81	63,428	836,300	5	1,560	42,900
Urban local road	218	103,685	1,290,615	3	1,868	12,600
Total	746	727,784	19,321,377	19	17,922	564,250

Proposed Bridge Work

Type of Work	Number of Bridges	Cost to Repair (in millions)	Daily Crossings	Area of Bridges (sq. meters)
Bridge replacement	11	$25	284,550	10,134
Widening & rehabilitation	0	$0	0	0
Rehabilitation	164	$309	5,214,588	190,907
Deck rehabilitation/replacement	0	$0	0	0
Other structural work	0	$0	0	0
Total	175	$334	5,499,138	201,041

About the data:

Data includes information for the following area(s): Mecklenburg County

Data and cost estimates are from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), downloaded on August 20, 2024. 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 2023 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.