

## Highlights from FHWA's 2018 National Bridge Inventory Data

- Of the 18,377 bridges in the state, 1,871, or 10.2 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 2,187 bridges classified as structurally deficient in 2014.
- 37 of the structurally deficient bridges are on the Interstate Highway System.
- 3,170 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 6,248 bridges at an estimated cost of \$1.9 billion.
- This compares to 7,087 bridges that needed work in 2014.

## Bridge Inventory

Type of Bridge <sup>4</sup>	All Bridges			Structurally Deficient Bridges		
	Total Number	Area (sq. meters)	Daily Crossings	Total Number	Area (sq. meters)	Daily Crossings
<b>Rural Bridges</b>						
Interstate	335	297,322	6,356,350	10	9,936	261,000
Other principal arterial	895	1,028,457	7,751,889	37	78,114	337,700
Minor arterial	691	479,095	3,857,246	54	118,775	286,250
Major collector	1,780	920,324	4,794,271	198	203,535	529,131
Minor collector	1,404	468,662	1,945,939	176	41,588	200,078
Local	7,022	1,413,279	3,620,475	946	135,103	416,883
<b>Urban Bridges</b>						
Interstate	887	1,258,596	34,099,849	27	23,949	1,178,750
Freeway/expressway	670	1,037,623	14,941,035	37	33,633	1,254,250
Other principal arterial	862	914,395	15,265,690	69	78,116	1,114,500
Minor arterial	1,033	941,187	12,159,270	72	100,579	748,805
Collector	1,009	593,248	5,938,915	96	40,621	488,790
Local	1,789	641,817	5,618,995	149	46,220	424,523
<b>Total</b>	<b>18,377</b>	<b>9,994,006</b>	<b>116,349,920</b>	<b>1,871</b>	<b>910,169</b>	<b>7,240,660</b>

## Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	1,379	\$887,825	4,083,550	676,273
Widening & rehabilitation	0	\$0	0	0
Rehabilitation	4,703	\$1,014,572	30,184,295	2,517,084
Deck rehabilitation/replacement	0	\$0	0	0
Other work	166	\$4,044	183,172	49,282
<b>Total</b>	<b>6,248</b>	<b>\$1,906,441</b>	<b>34,451,017</b>	<b>3,242,639</b>



## Top Most Traveled Structurally Deficient Bridges in North Carolina

County	Year Built	Daily Crossings	Type of Bridge	Location
Wake	1968	149,000	Urban Interstate	I40 over Brier Creek
Alamance	1953	124,000	Urban Interstate	I40, I85, SR1167 over Gum Creek
Wake	1982	118,000	Urban Interstate	I40 over Walnut Creek
Mecklenburg	1967	86,000	Urban Interstate	I277 & NC16 over North College Street
Mecklenburg	1967	86,000	Urban Interstate	I277 & NC16 over Brevard Street
Wake	1958	78,000	Urban Interstate	I-440 & SR1319 over Walnut Creek
Forsyth	1964	74,000	Urban freeway/expressway	US52 over 28th Street
Forsyth	1964	74,000	Urban freeway/expressway	US52 over 25th Street
Forsyth	1955	74,000	Urban freeway/expressway	I40 Bus over SR4315 (Liberty St)
Forsyth	1958	73,000	Urban freeway/expressway	I40 Bus over Brushy Fork Creek

**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.