

### Highlights from FHWA's 2019 National Bridge Inventory Data

- Of the 18,407 bridges in the state, 1,714, or 9.3 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 2,073 bridges classified as structurally deficient in 2015.
- The deck area of structurally deficient bridges accounts for 8.5 percent of total deck area on all structures.
- 42 of the structurally deficient bridges are on the Interstate Highway System.
- 2,848 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 6,026 bridges at an estimated cost of \$3.2 billion.
- This compares to 2,217 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
<b>Rural Bridges</b>						
Interstate	332	280,793	6,365,400	15	15,470	512,500
Other principal arterial	904	994,037	7,914,889	41	71,660	436,150
Minor arterial	692	490,852	3,884,696	59	123,259	297,650
Major collector	1,770	937,624	4,759,807	184	175,861	498,616
Minor collector	1,393	484,898	1,917,845	157	38,821	183,074
Local	6,989	1,498,664	3,640,202	825	117,089	353,342
<b>Urban Bridges</b>						
Interstate	900	1,220,363	34,487,153	27	26,496	1,403,250
Freeway/expressway	677	1,015,824	15,063,209	37	31,350	1,121,500
Other principal arterial	876	885,454	15,520,340	65	72,786	1,117,250
Minor arterial	1,043	926,354	12,387,470	65	95,714	733,875
Collector	1,024	600,293	5,997,757	83	38,263	435,680
Local	1,807	643,152	5,589,208	156	45,578	424,633
<b>Total</b>	<b>18,407</b>	<b>9,978,307</b>	<b>117,527,976</b>	<b>1,714</b>	<b>852,346</b>	<b>7,517,520</b>

### Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	1,111	\$802	3,442,242	595,379
Widening & rehabilitation	0	\$0	0	0
Rehabilitation	4,751	\$2,335	31,922,855	2,548,086
Deck rehabilitation/replacement	0	\$0	0	0
Other work	164	\$45	220,076	48,334
<b>Total</b>	<b>6,026</b>	<b>\$3,182</b>	<b>35,585,173</b>	<b>3,191,800</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
Wake	1986	115,000	Urban Interstate	I40 over Big Branch Creek
Mecklenburg	1971	110,000	Urban Interstate	I277 NC16 over US29/Nc49 (Graham St.)
Wake	1960	86,000	Urban Interstate	I-440 over Sr37 Southern RR
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	1955	74,000	Urban freeway/expressway	I40 Bus over SR4315 (Liberty St)

**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.