

Highlights from FHWA's 2023 National Bridge Inventory Data

- Of the 3,477 bridges in the counties of this district, 125, or 3.6 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 156 bridges classified as structurally deficient in 2019.
- Repairs are needed on 1,586 bridges in the district, which will cost an estimated \$2.0 billion.
- This compares to 1,650 bridges that needed work in 2019.
- The state has committed \$19.1 million in IJA bridge formula funds to support 10 projects in the District.

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	157	154,994	2,368,245	4	3,199	62,682
Other principal arterial	202	181,328	1,180,209	6	3,002	18,157
Minor arterial	235	127,847	840,418	5	1,689	14,509
Major collector	513	152,192	601,751	19	6,280	32,067
Minor collector	449	83,792	265,734	12	1,185	2,928
Local	1,204	161,197	279,639	55	6,908	9,186
Urban Bridges						
Interstate	163	147,990	3,762,625	0	0	0
Freeway/expressway	74	86,740	1,185,526	0	0	0
Other principal arterial	75	73,723	878,894	3	2,315	39,961
Minor arterial	125	106,278	1,041,979	7	10,863	29,289
Collector	143	62,180	493,775	7	3,736	18,825
Local	137	25,257	126,893	7	1,105	5,027
Total	3,477	1,363,518	13,025,688	125	40,281	232,631

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	481	\$613.5	1,120,643	124,332
Widening & rehabilitation	66	\$74.6	283,062	21,472
Rehabilitation	820	\$945.4	3,659,842	273,281
Deck rehabilitation/replacement	13	\$9.5	23,058	2,941
Other work	206	\$384.3	856,073	110,638
Total	1,586	\$2,027.3	5,942,678	532,664

Top Most Traveled Structurally Deficient Bridges in this District

County	Year Built	Daily Crossings	Type of Bridge	Location
Salem	1940	19,673	Urban other principal arterial	Route 11 over Appersn Dr O Roanoke Rv
Smyth	1962	16,646	Rural Interstate	Interstate 81 NBL over M. Fork Holston River
Bland	1974	15,475	Rural Interstate	I-77 NBL over Rte 606
Wythe	1969	15,373	Rural Interstate	I-77 SBL over Cove Creek
Smyth	1962	15,188	Rural Interstate	Interstate 81 SBL over M. Fork Holston River
Salem	1949	14,791	Urban other principal arterial	Route 11 over Colorado St O Ns Rwy @
Wise	1981	14,041	Urban minor arterial	US-58A over Guest Rv & Ns Railway
Pulaski	1961	7,472	Urban collector	Route 99 over Peak Creek
Wythe	1960	6,284	Rural major collector	Route 619 over Route 81 / 11
Tazewell	1923	5,915	Rural major collector	Route 61 over N Fork Clinch River

Data includes information for the following area(s): Alleghany County, Bland County, Buchanan County, Carroll County, Craig County, Dickenson County, Floyd County, Giles County, Grayson County, Henry County, Lee County, Montgomery County, Patrick County, Pulaski County, Roanoke County, Russell County, Scott County, Smyth County, Tazewell County, Washington County, Wise County, Wythe County, Bristol city, Covington city, Galax city, Martinsville city, Norton city, Radford city, Salem city

About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), downloaded on July 3, 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.