Tennessee

American Road & Transportation Builders Association

State Bridge Profile

Highlights from FHWA's 2023 National Bridge Inventory Data

- The state has identified needed repairs on 7,394 bridges.
- Over the life of the IIJA, Tennessee will receive a total of $403.3 million in bridge formula funds, which will help make needed repairs.
- Tennessee currently has access to $161.3 million of that total, and has committed $47.1 million towards 16 projects as of June 2023.
- Of the 20,373 bridges in the state, 898, or 4.4 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 887 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	626	705,521	23,357,610	21	25,427	973,512
Other principal arterial	1,081	939,746	8,340,061	29	45,091	223,381
Minor arterial	1,211	728,284	5,287,284	56	39,376	226,919
Major collector	1,884	666,111	2,874,282	98	46,743	162,222
Minor collector	2,901	705,980	1,968,000	126	36,680	92,864
Local	6,341	949,762	1,395,995	316	46,011	66,009
Urban Bridges						
Interstate	999	1,698,616	76,853,482	25	39,128	2,464,255
Freeway/expressway	379	652,945	14,155,592	7	16,473	351,244
Other principal arterial	1,320	1,636,535	26,737,198	67	130,375	1,387,835
Minor arterial	1,059	982,532	12,100,231	48	52,102	720,679
Collector	1,016	431,402	4,488,428	41	16,383	159,590
Local	1,556	396,176	2,242,933	64	21,664	95,527
Total	**20,373**	**10,493,610**	**179,801,088**	**898**	**515,453**	**6,924,037**

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	865	$665.8	4,068,536	345,907
Widening & rehabilitation	3,456	$1,823.4	20,575,495	1,396,001
Rehabilitation	2,608	$2,549.1	43,111,817	1,723,066
Deck rehabilitation/replacement	123	$284.1	1,145,493	190,131
Other work	342	$274.5	1,860,927	210,981
Total	**7,394**	**$5,597.0**	**70,762,268**	**3,866,087**

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Top Most Traveled Structurally Deficient Bridges in Tennessee

County	Year Built	Daily Crossings	Type of Bridge	Location
Davidson	1958	155,629	Urban Interstate	I24 over Mill Creek
Davidson	1960	154,055	Urban Interstate	I40 over I40 Str 5B / I24
Knox	1965	139,697	Urban Interstate	I40 Ll over I40-Ll / 17th. Street
Knox	1965	139,697	Urban Interstate	I40 over I40 / University Ave.
Knox	1965	139,697	Urban Interstate	I40 Rl over I40-Rl / 17th. Street
Davidson	1963	131,122	Urban Interstate	I40 over Mill Creek
Hamilton	1960	115,412	Urban Interstate	I24 EBL & WBL over Branch
Davidson	1961	113,584	Urban Interstate	I-24 WB Ramp over I-24 EB
Hamilton	1959	110,093	Urban Interstate	I75 over Branch
Williamson	1963	109,713	Urban Interstate	I65 over Branch

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.