American Road & Transportation Builders Association

National Bridge Inventory: Tennessee

- The state has identified needed repairs on 7,378 bridges.
- This compares to 7,428 bridges that needed work in 2020.
- 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 $242.0 million of that total, and has committed $182.7 million towards 26 projects as of June 2024.
- Of the 20,379 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 881 bridges classified as structurally deficient in 2020.
- The deck area of structurally deficient bridges accounts for 5.0 percent of total deck area on all structures.

41

Compared to 40 in 2023

in the nation in % of structurally deficient bridges

1. Iowa	19.0%
40. Minnesota	4.0%
41. Tennessee	4.0%
42. Virginia	3.0%

20

Compared to 20 in 2023

in the nation in # of structurally deficient bridges

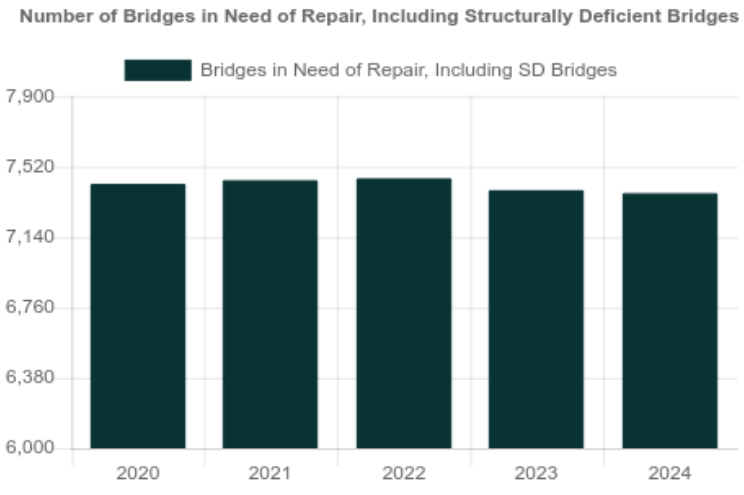
1. Iowa	4,544
19. Wisconsin	942
20. Tennessee	898
21. Arkansas	704

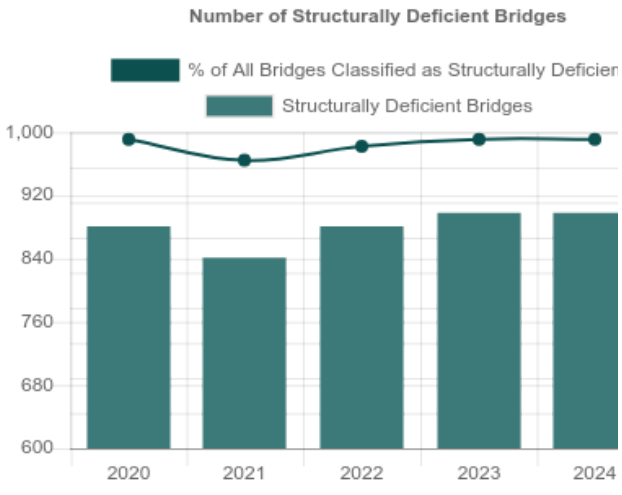
28

Compared to 28 in 2023

in the nation in % of structurally deficient bridge deck area

1. Rhode Island	14.0%
27. Minnesota	5.0%
28. Tennessee	5.0%
29. Arkansas	5.0%





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 I24
Knox	1965	139,697	Urban Interstate	I40 Rl over I40-Rl / 17th. Street
Knox	1965	139,697	Urban Interstate	I40 Ll over I40-Ll / 17th. Street
Knox	1965	139,697	Urban Interstate	I40 over I40 / University Ave.
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
Hamilton	1990	105,057	Urban Interstate	I24 WB over I24 WB / A660 & CSX RR
Davidson	1967	101,986	Urban Interstate	I65 343316H over Cumberland Rv & Cowan St
Davidson	1962	97,513	Urban Interstate	I40 over I40 / Westboro Road
Hamilton	1964	94,104	Urban Interstate	I24 WBL over Missionary Ridge
Hamilton	1965	94,104	Urban Interstate	I24 EBL over Missionary Ridge
Williamson	1963	94,031	Urban Interstate	I65 over I65 / SR106 & Harpeth Rv
Williamson	1963	94,031	Urban Interstate	I65 over I65 / SR106 & Harpeth Rv
Davidson	1972	74,643	Rural Interstate	I-24E over Old Hickory Blvd.
Davidson	1972	74,643	Rural Interstate	I-24W over Old Hickory Blvd.
Hamilton	1964	69,132	Urban Interstate	I24 over Browns Ferry Rd(FAU 3622
Hamilton	1964	69,132	Urban Interstate	I24 over Brown S Ferry (FAU 3622)
Shelby	1958	59,405	Urban other principal arterial	Fas 177 over Wolf River
Sumner	2006	59,055	Urban freeway/expressway	Fap 386 over Sr386-Ll / Sr6 & Ramp F
Wilson	1964	57,395	Urban Interstate	I40 348852T over CSX Railroad
Wilson	1964	57,395	Urban Interstate	I40 348852T over CSX Railroad

Bridge Inventory: Tennessee

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	624	703,924	23,252,425	22	26,089	993,077
Rural arterial	1,085	924,693	8,381,340	31	53,492	226,422
Rural minor arterial	1,212	729,274	5,290,933	50	39,063	193,216
Rural major collector	1,886	668,342	2,875,596	93	42,879	154,005
Rural minor collector	2,898	706,196	1,986,034	132	41,464	102,020
Rural local road	6,334	951,514	1,402,069	300	42,458	63,741
Urban Interstate	996	1,696,070	76,695,761	27	47,402	2,495,519
Urban freeway/expressway	379	653,616	14,155,592	7	11,063	291,015
Urban other principal arterial	1,323	1,637,321	26,755,317	71	110,879	1,487,842
Urban minor arterial	1,057	977,536	12,084,972	51	60,288	589,100
Urban collector	1,014	432,344	4,481,348	43	22,318	183,597
Urban local road	1,571	405,273	2,260,189	71	24,727	104,271
Total	20,379	10,486,104	179,621,576	898	522,121	6,883,825

Proposed Bridge Work

Type of Work	Number of Bridges	Cost to Repair (in millions)	Daily Crossings	Area of Bridges (sq. meters)
Bridge replacement	851	$724	4,002,393	347,052
Widening & rehabilitation	3,448	$1,966	20,440,084	1,388,082
Rehabilitation	2,618	$2,807	43,073,840	1,728,274
Deck rehabilitation/replacement	122	$311	1,128,991	187,879
Other structural work	339	$292	1,882,507	205,922
Total	7,378	$6,100	70,527,815	3,857,209

About the data:

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.