American Road & Transportation Builders Association

National Bridge Inventory: Virginia

- The state has identified needed repairs on 6,361 bridges.
- This compares to 6,395 bridges that needed work in 2020.
- Over the life of the IIJA, Virginia will receive a total of $578.0 million in bridge formula funds, which will help make needed repairs.
- Virginia currently has access to $346.8 million of that total, and has committed $123.1 million towards 74 projects as of June 2024.
- Of the 14,121 bridges in the state, 478, or 3.4 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 577 bridges classified as structurally deficient in 2020.
- The deck area of structurally deficient bridges accounts for 2.9 percent of total deck area on all structures.

42

Compared to 42 in 2023

in the nation in % of structurally deficient bridges

1. Iowa	19.0%
41. Tennessee	4.0%
42. Virginia	3.0%
43. Alabama	3.0%

26

Compared to 26 in 2023

in the nation in # of structurally deficient bridges

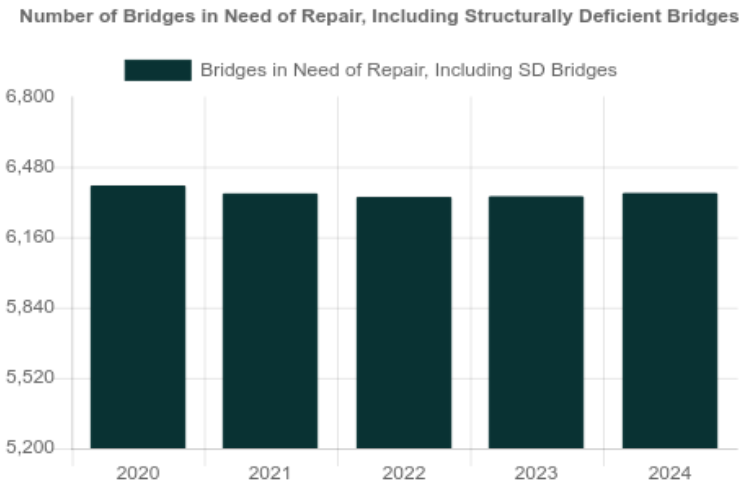
1. Iowa	4,544
25. Alabama	543
26. Virginia	478
27. Massachusetts	470

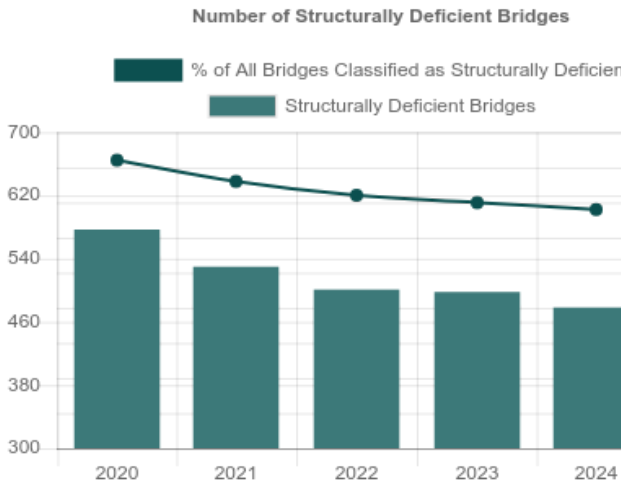
44

Compared to 42 in 2023

in the nation in % of structurally deficient bridge deck area

1. Rhode Island	14.0%
43. Oregon	3.0%
44. Virginia	3.0%
45. Delaware	3.0%





Top Most Traveled Structurally Deficient Bridges in Virginia

County	Year Built	Daily Crossings	Type of Bridge	Location
Prince William	1963	75,952	Urban Interstate	Interstate Rt.95SB over Neabsco Creek
Henrico	1974	73,235	Urban Interstate	Route 0195 over Rte 197 & CSX Transp. RR
Henrico	1968	64,877	Urban Interstate	Interstate 64 over Stony Run
Fairfax	1962	53,000	Urban Interstate	EB G.W.Mem.Pkwy over Route I-495
Prince William	1980	49,979	Urban other principal arterial	Centreville Road over Bull Run
York	1957	40,889	Urban Interstate	IS 64 WBL S Appr over Hampton Roads
Charlottesville	1970	40,230	Urban freeway/expressway	Route 0250 over Rugby Ave
Charlottesville	1954	40,230	Urban freeway/expressway	Route 250 Bypass over Norfolk Southern Railway
Henrico	1975	37,939	Urban Interstate	NBL I-195 over CSX Transp
Fredericksburg	1943	37,586	Urban other principal arterial	Route 01 over Rappahannock River @
Chesapeake	1948	37,332	Urban other principal arterial	Military Highway over Rte. 460 & Ns Railway
Fredericksburg	1945	27,400	Urban other principal arterial	Emancipation Hw By over Old Rappahannock Canal
Henrico	1967	26,406	Urban Interstate	Route I-195 NBL over Bellevue Ave.
Richmond	1958	26,150	Urban other principal arterial	Broad Street over I-95
Richmond	1909	26,150	Urban other principal arterial	Broad Street over CSX Abandoned Spur Line
Prince George	1962	25,682	Urban Interstate	Interstate-95 NBL over Ns Railway
Henrico	1968	24,284	Urban minor arterial	Nine Mile Road over I-64
Richmond	1943	23,866	Urban other principal arterial	North Boulevard over CSX Railway
Henrico	1967	23,729	Urban other principal arterial	Parham Road over CSX Railway
Chesapeake	1974	22,822	Urban minor arterial	Indian River Road over Indian River
Virginia Beach	1938	22,683	Urban other principal arterial	Laskin Road over Linkhorn Bay
Charlottesville	1970	22,297	Urban freeway/expressway	Route 0250 over Rte 29 Business
Stafford	1933	20,738	Urban other principal arterial	Richmond Hwy. over Chopawamsic Creek
Fairfax	1977	20,158	Urban minor arterial	Reston Parkway SBL over Rte.267 & Dulles Acc.Rd.
Salem	1940	19,916	Urban other principal arterial	Route 11 over Appersn Dr O Roanoke Rv

Bridge Inventory: Virginia

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	430	357,136	9,058,345	5	6,138	75,709
Rural arterial	609	964,262	4,247,145	14	66,700	62,081
Rural minor arterial	830	558,889	3,576,719	22	13,083	107,724
Rural major collector	1,488	470,956	2,122,356	49	12,022	62,868
Rural minor collector	1,082	240,774	664,296	40	7,054	18,543
Rural local road	3,883	583,855	1,000,737	195	21,355	34,856
Urban Interstate	1,379	2,808,176	56,050,726	11	59,664	422,854
Urban freeway/expressway	629	940,197	13,665,325	5	6,842	134,599
Urban other principal arterial	815	1,645,156	16,762,275	31	44,406	553,319
Urban minor arterial	990	952,138	12,391,792	32	41,303	264,535
Urban collector	1,033	569,888	5,030,997	35	18,706	130,928
Urban local road	953	374,423	2,048,781	39	9,880	57,975
Total	14,121	10,465,851	126,619,494	478	307,154	1,925,991

Proposed Bridge Work

Type of Work	Number of Bridges	Cost to Repair (in millions)	Daily Crossings	Area of Bridges (sq. meters)
Bridge replacement	1,580	$6,085	8,653,448	1,146,793
Widening & rehabilitation	479	$2,462	4,941,631	678,187
Rehabilitation	3,036	$7,173	38,898,227	1,995,591
Deck rehabilitation/replacement	69	$319	1,247,878	88,845
Other structural work	1,197	$2,666	9,428,413	747,235
Total	6,361	$18,704	63,169,597	4,656,651

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.