National Bridge Inventory: Rhode Island

American Road & Transportation Builders Association

2021 Bridge Profile

Highlights from FHWA's 2020 National Bridge Inventory Data

- Of the 777 bridges in the state, 148, or 19.0 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 192 bridges classified as structurally deficient in 2016.
- The deck area of structurally deficient bridges accounts for 20.5 percent of total deck area on all structures.
- 17 of the structurally deficient bridges are on the Interstate Highway System. A total of 54.1 percent of the structurally deficient bridges are not on the National Highway System, which includes the Interstate and other key roads linking major airports, ports, rail and truck terminals.
- 111 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 716 bridges at an estimated cost of $1.9 billion.

Bridge Inventory

Type of Bridge[4]	All Bridges			Structurally Deficient Bridges		
	Total Number	Area (sq. meters)	Daily Crossings	Total Number	Area (sq. meters)	Daily Crossings
Rural Bridges						
Interstate	13	6,465	362,215	1	438	43,029
Other principal arterial	16	6,350	129,581	0	0	0
Minor arterial	9	2,258	38,594	1	63	5,199
Major collector	22	6,455	72,522	4	1,261	4,718
Minor collector	23	4,989	21,286	2	315	1,800
Local	31	3,373	18,535	10	970	2,119
Urban Bridges						
Interstate	129	209,583	7,523,859	16	45,899	1,116,571
Freeway/expressway	120	234,495	3,452,831	27	35,613	979,698
Other principal arterial	128	121,114	1,951,649	22	18,789	340,110
Minor arterial	143	113,182	1,603,621	30	42,821	355,708
Collector	87	41,409	419,922	22	9,373	83,803
Local	56	17,760	303,849	13	2,020	28,941
Total	**777**	**767,434**	**15,898,464**	**148**	**157,563**	**2,961,696**

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	5	$16,203.2	22,639	3,527
Widening & rehabilitation	.	$.	.	.
Rehabilitation	709	$1,861,719.0	14,694,026	661,060
Deck rehabilitation/replacement				
Other work	2	$11,351.5	3,050	3,633
Total	**716**	**$1,889,273.6**	**14,719,715**	**668,220**

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Top Most Traveled Structurally Deficient Bridges in Rhode Island

County	Year Built	Daily Crossings	Type of Bridge	Location
Providence	1964	171,707	Urban Interstate	I-95 NB & SB over US 6,Woon Rvr,Amtrak
Providence	1964	157,769	Urban Interstate	I-95 NB & SB over Wellington Av
Providence	1965	157,769	Urban Interstate	I-95 NB & SB over US 1 Elmwood Av
Providence	1964	157,769	Urban Interstate	I-95 NB & SB over Amtrak
Providence	1964	156,790	Urban Interstate	I-95 NB & SB over Narr Elec Co Siding
Providence	1969	76,700	Urban Interstate	I-195 WB over Seekonk River
Providence	1957	69,109	Urban freeway/expressway	RI 146 Ed Dowl Hwy over RI 15 Mineral Spring Av
Providence	1957	67,584	Urban freeway/expressway	RI 146 Ed Dowl Hwy over Branch Av
Washington	1988	60,875	Urban freeway/expressway	RI 4 NB & SB over Stony Lane,Scrbbltwn Brk
Washington	1953	56,311	Urban freeway/expressway	RI 4 Col Rodman Hy over Amtrak

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About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), downloaded on March 11, 2021. 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 2019 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.