

Highlights from FHWA's 2020 National Bridge Inventory Data

- Of the 8,829 bridges in the state, 481, or 5.4 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 455 bridges classified as structurally deficient in 2016.
- The deck area of structurally deficient bridges accounts for 5.2 percent of total deck area on all structures.
- 61 of the structurally deficient bridges are on the Interstate Highway System. A total of 75.7 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.
- 387 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 1,298 bridges at an estimated cost of \$962.8 million.

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	537	421,427	10,110,912	28	28,993	478,116
Other principal arterial	622	339,346	4,033,514	21	8,088	120,390
Minor arterial	617	251,685	1,319,393	39	12,570	84,320
Major collector	596	207,799	1,012,450	44	7,602	24,152
Minor collector	888	219,661	1,682,036	55	9,765	47,301
Local	2,006	354,741	2,035,126	150	28,929	138,753
Urban Bridges						
Interstate	587	955,325	35,783,226	33	97,078	2,546,567
Freeway/expressway	421	570,606	16,378,223	11	16,602	361,148
Other principal arterial	558	673,425	13,637,391	24	25,634	604,193
Minor arterial	497	400,775	5,743,716	21	11,490	213,559
Collector	617	399,128	5,879,117	27	10,826	250,680
Local	883	321,058	6,837,977	28	5,851	74,794
Total	8,829	5,114,977	104,453,080	481	263,429	4,943,973

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	286	\$289,777.3	3,254,258	181,059
Widening & rehabilitation	260	\$183,153.7	4,279,001	166,391
Rehabilitation	385	\$210,667.5	3,808,565	190,088
Deck rehabilitation/replacement	48	\$45,423.1	827,007	41,370
Other work	319	\$233,746.3	4,538,929	213,410
Total	1,298	\$962,767.9	16,707,760	792,318

Top Most Traveled Structurally Deficient Bridges in Colorado

County	Year Built	Daily Crossings	Type of Bridge	Location
Denver	1964	157,000	Urban Interstate	I 70 ML over US6,RR, City St
Denver	1964	146,000	Urban Interstate	I 70 ML WBnd over Rock Island RR
Denver	1964	146,000	Urban Interstate	I 70 ML WBnd over SH 35 MI
Denver	1964	146,000	Urban Interstate	I 70 ML EBnd over SH 35 MI
Denver	1971	146,000	Urban Interstate	I 225 ML over Goldsmith Gulch
Denver	1960	146,000	Urban Interstate	I 70 ML EBnd over Rock Island RR
Jefferson	1967	135,000	Urban Interstate	I 70 ML EBnd over SH 391 MI
Jefferson	1967	135,000	Urban Interstate	I 70 ML WBnd over SH 391 MI
El Paso	1940	130,000	Urban collector	Cache LA Poudre St over Monument Creek
Jefferson	1972	116,000	Urban freeway/expressway	US 6 ML over SH 121 MI

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.

© 2021 The American Road & Transportation Builders Association (ARTBA). All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of ARTBA.