National Bridge Inventory: Texas

American Road & Transportation Builders Association

2021 Bridge Profile

Highlights from FHWA's 2020 National Bridge Inventory Data

- Of the 54,682 bridges in the state, 818, or 1.5 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 653 bridges classified as structurally deficient in 2016.
- The deck area of structurally deficient bridges accounts for 1.5 percent of total deck area on all structures.
- 50 of the structurally deficient bridges are on the Interstate Highway System. A total of 85.9 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.
- 2,841 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 11,704 bridges at an estimated cost of $6.3 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	2,261	1,961,711	37,934,168	20	14,991	230,724
Other principal arterial	4,825	4,314,786	36,311,080	14	30,248	93,845
Minor arterial	3,860	2,695,706	14,220,907	33	60,369	98,112
Major collector	8,050	3,278,591	11,785,307	75	44,962	96,226
Minor collector	2,487	696,110	1,375,221	27	6,776	17,439
Local	10,307	2,155,822	5,053,761	452	53,828	70,565
Urban Bridges						
Interstate	3,478	9,699,320	196,269,241	30	255,017	1,482,496
Freeway/expressway	4,583	13,543,447	149,089,589	34	108,946	975,020
Other principal arterial	4,024	5,903,594	66,423,507	19	34,620	297,084
Minor arterial	2,847	3,057,209	31,805,013	30	44,484	227,005
Collector	2,933	2,563,469	22,381,016	18	58,019	99,200
Local	5,027	2,775,235	18,542,750	66	34,797	245,137
Total	**54,682**	**52,645,000**	**591,191,552**	**818**	**747,057**	**3,932,853**

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	2,896	$1,298,837.5	10,457,238	1,234,398
Widening & rehabilitation	74	$31,758.3	1,126,457	44,980
Rehabilitation	602	$232,315.0	2,705,714	328,211
Deck rehabilitation/replacement	10	$1,205.6	1,564	1,664
Other work	8,122	$4,690,753.1	82,082,559	6,606,262
Total	**11,704**	**$6,254,869.4**	**96,373,532**	**8,215,516**

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Top Most Traveled Structurally Deficient Bridges in Texas

County	Year Built	Daily Crossings	Type of Bridge	Location
Dallas	2018	175,985	Urban freeway/expressway	SH 183 WBml & from over Lp 12
Harris	1973	171,423	Urban Interstate	IH 610 over Houston Ship Channel
Harris	1961	106,670	Urban Interstate	IH 45 NB over White Oak Bayou
Harris	1964	96,322	Urban Interstate	IH 610S EB over Holmes Rd UPRR Theresa
Harris	1958	91,887	Urban Interstate	IH 10 WB over McCarty St/US 90A
Harris	1964	90,848	Urban Interstate	IH 610S WB over Holmes Rd UPRR & Theresa
Bexar	1962	85,046	Urban Interstate	IH 35 NB ML over Eisenhauer Rd
Dallas	1971	81,045	Urban Interstate	IH 30 WBml over IH 635
Dallas	1967	76,110	Urban Interstate	IH 635 EB over Tap RR
Dallas	1967	76,110	Urban Interstate	IH 635 EB over SH 78 & at & Sf RR

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.