PENNSYLVANIA

American Road & Transportation Builders Association

2020 Bridge Profile

Highlights from FHWA's 2019 National Bridge Inventory Data

- Of the 22,911 bridges in the Commonwealth, 3,501, or 15.3 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 4,701 bridges classified as structurally deficient in 2015.
- The deck area of structurally deficient bridges accounts for 8.3 percent of total deck area on all structures.
- 101 of the structurally deficient bridges are on the Interstate Highway System.
- 2,267 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 11,882 bridges at an estimated cost of $17.2 billion.
- This compares to 13,091 bridges that needed work in 2015.

Bridge Inventory

Type of Bridge	All Bridges			Structurally Deficient Bridges		
	Total Number	Area (sq. meters)	Daily Crossings	Total Number	Area (sq. meters)	Daily Crossings
Rural Bridges						
Interstate	1,024	956,903	18,378,768	32	28,890	770,260
Other principal arterial	979	1,013,785	7,831,491	38	11,015	388,746
Minor arterial	1,467	544,050	5,486,935	159	35,855	493,945
Major collector	1,897	579,814	3,064,773	221	54,989	345,531
Minor collector	2,039	414,510	1,441,361	299	51,389	230,984
Local	7,151	1,132,594	2,847,509	1,707	211,782	633,321
Urban Bridges						
Interstate	1,447	2,965,946	56,257,592	69	141,988	3,244,327
Freeway/expressway	920	1,306,168	24,435,810	31	55,787	978,934
Other principal arterial	1,449	1,832,740	23,388,944	168	184,957	2,673,246
Minor arterial	1,519	1,072,758	13,934,677	195	117,783	1,760,761
Collector	1,449	590,432	5,833,797	213	62,165	859,307
Local	1,570	602,014	3,807,591	369	123,175	760,839
Total	**22,911**	**13,011,714**	**166,709,248**	**3,501**	**1,079,774**	**13,140,201**

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	1,954	$1,506	5,218,896	420,606
Widening & rehabilitation	112	$357	988,700	158,394
Rehabilitation	7,641	$12,150	68,734,174	5,251,775
Deck rehabilitation/replacement	960	$1,502	6,361,697	639,315
Other work	1,215	$1,699	6,030,365	725,683
Total	**11,882**	**$17,214**	**87,333,832**	**7,195,774**

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Top Most Traveled Structurally Deficient Bridges in Pennsylvania

County	Year Built	Daily Crossings	Type of Bridge	Location
Philadelphia	1967	198,738	Urban Interstate	Interstate 95 over Comly Street
Philadelphia	1967	198,738	Urban Interstate	Interstate 95 over Fraley Street
Philadelphia	1965	197,283	Urban Interstate	Delaware Expway. over Venango Street
Philadelphia	1965	197,283	Urban Interstate	Delaware Expway. over Wheatsheaf Lane
Philadelphia	1968	194,019	Urban Interstate	Interstate 95 over earth fill & sewer access
Philadelphia	1970	177,807	Urban Interstate	Delaware Expway. over Shackamaxon Street
Philadelphia	1965	177,807	Urban Interstate	Delaware Expway. over Sergeant & Huntingdon St
Philadelphia	1971	177,807	Urban Interstate	Delaware Expway. over Palmer-Cumberland Strs.
Montgomery	1952	97,602	Urban Interstate	Schuylkill Expway. over Righters Ferry Road
Philadelphia	1960	87,230	Urban freeway/expressway	Roosevelt Blvd Ext over Roberts Ave;Septa;CSX

About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), released April 2, 2020. 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 surface transportation law 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 2018 and 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.