American Road & Transportation Builders Association

Pennsylvania 2019 Bridge Profile

Highlights from FHWA's 2018 National Bridge Inventory Data

- Of the 22,737 bridges in the Commonwealth, 3,770, or 16.6 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 4,969 bridges classified as structurally deficient in 2014.
- 106 of the structurally deficient bridges are on the Interstate Highway System.
- 2,355 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 11,758 bridges at an estimated cost of $12.7 billion.
- This compares to 13,298 bridges that needed work in 2014.

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	1,017	1,430,337	17,948,957	36	27,842	991,787
Other principal arterial	962	917,991	7,652,502	43	11,868	418,523
Minor arterial	1,451	560,911	5,462,884	189	41,534	606,826
Major collector	1,866	625,047	3,073,731	253	81,645	406,358
Minor collector	2,014	443,827	1,437,611	334	56,046	270,393
Local	7,123	1,225,174	2,800,035	1,788	233,368	666,568
Urban Bridges						
Interstate	1,445	2,950,778	55,374,549	70	143,190	3,298,475
Freeway/expressway	865	1,210,074	23,396,553	31	62,236	1,120,375
Other principal arterial	1,501	2,239,206	24,261,294	186	193,638	2,948,819
Minor arterial	1,517	1,103,733	14,117,073	214	131,211	1,932,892
Collector	1,417	593,777	5,767,793	234	68,723	963,213
Local	1,559	644,387	3,844,473	392	119,551	808,655
Total	**22,737**	**13,945,241**	**165,137,456**	**3,770**	**1,170,852**	**14,432,884**

Proposed Bridge Work

Type of Work	Number	Cost (millions)	Daily Crossings	Area (sq. meters)
Bridge replacement	2,255	$1,895,970	6,207,117	557,153
Widening & rehabilitation	113	$67,589	803,149	50,203
Rehabilitation	7,775	$9,054,920	69,384,899	5,676,191
Deck rehabilitation/replacement	960	$1,239,016	6,417,155	798,958
Other work	655	$446,944	3,588,739	367,425
Total	**11,758**	**$12,704,440**	**86,401,059**	**7,449,930**

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Top Most Traveled Structurally Deficient Bridges in Pennsylvania

County	Year Built	Daily Crossings	Type of Bridge	Location
Philadelphia	1967	194,917	Urban Interstate	Interstate 95 over Fraley Street
Philadelphia	1967	194,917	Urban Interstate	Interstate 95 over Comly Street
Philadelphia	1965	193,491	Urban Interstate	Delaware Expway. over Venango Street
Philadelphia	1965	193,491	Urban Interstate	Delaware Expway. over Wheatsheaf Lane
Philadelphia	1968	190,289	Urban Interstate	Interstate 95 over earth fill & sewer access
Philadelphia	1971	174,389	Urban Interstate	Delaware Expway. over Palmer-Cumberland Strs.
Philadelphia	1970	174,389	Urban Interstate	Delaware Expway. over Shackamaxon Street
Philadelphia	1965	174,389	Urban Interstate	Delaware Expway. over Sergeant & Huntingdon St
Montgomery	1952	96,760	Urban Interstate	Schuylkill Expway. over Righters Ferry Road
Lehigh	1954	90,188	Urban freeway/expressway	US 22(LR 771) over Lehigh Canal,SR 17,Nsr

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About the data: Data is from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), released March 15, 2019. 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 2017 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.