

## Highlights from FHWA's 2018 National Bridge Inventory Data

- Of the 7,269 bridges in the state, 1,444, or 19.9 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 922 bridges classified as structurally deficient in 2014.
- 88 of the structurally deficient bridges are on the Interstate Highway System.
- 871 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 3,637 bridges at an estimated cost of \$2.0 billion.
- This compares to 3,421 bridges that needed work in 2014.

## Bridge Inventory

| Type of Bridge <sup>4</sup> | All Bridges  |                   |                   | Structurally Deficient Bridges |                   |                  |
|-----------------------------|--------------|-------------------|-------------------|--------------------------------|-------------------|------------------|
|                             | Total Number | Area (sq. meters) | Daily Crossings   | Total Number                   | Area (sq. meters) | Daily Crossings  |
| <b>Rural Bridges</b>        |              |                   |                   |                                |                   |                  |
| Interstate                  | 401          | 476,475           | 5,671,980         | 43                             | 45,673            | 804,450          |
| Other principal arterial    | 437          | 709,292           | 2,823,974         | 64                             | 73,496            | 420,382          |
| Minor arterial              | 349          | 201,980           | 1,199,043         | 91                             | 34,430            | 288,189          |
| Major collector             | 1,483        | 439,072           | 2,336,660         | 333                            | 73,307            | 479,663          |
| Minor collector             | 495          | 90,132            | 315,602           | 87                             | 12,804            | 40,747           |
| Local                       | 2,998        | 420,023           | 692,327           | 611                            | 61,756            | 113,657          |
| <b>Urban Bridges</b>        |              |                   |                   |                                |                   |                  |
| Interstate                  | 250          | 591,697           | 6,535,636         | 45                             | 86,804            | 1,081,823        |
| Freeway/expressway          | 76           | 192,053           | 853,079           | 9                              | 11,666            | 88,364           |
| Other principal arterial    | 139          | 287,843           | 2,188,688         | 25                             | 54,611            | 386,330          |
| Minor arterial              | 210          | 226,476           | 1,883,819         | 53                             | 47,654            | 456,136          |
| Collector                   | 143          | 77,468            | 576,313           | 24                             | 18,397            | 119,460          |
| Local                       | 288          | 99,232            | 394,657           | 59                             | 12,231            | 58,225           |
| <b>Total</b>                | <b>7,269</b> | <b>3,811,742</b>  | <b>25,471,778</b> | <b>1,444</b>                   | <b>532,829</b>    | <b>4,337,426</b> |

## Proposed Bridge Work

| Type of Work                    | Number       | Cost (millions)    | Daily Crossings   | Area (sq. meters) |
|---------------------------------|--------------|--------------------|-------------------|-------------------|
| Bridge replacement              | 2,033        | \$760,384          | 3,337,272         | 396,275           |
| Widening & rehabilitation       | 251          | \$41,624           | 636,038           | 67,734            |
| Rehabilitation                  | 685          | \$483,938          | 3,639,104         | 567,855           |
| Deck rehabilitation/replacement | 578          | \$672,777          | 4,837,172         | 721,708           |
| Other work                      | 90           | \$87,932           | 313,861           | 89,223            |
| <b>Total</b>                    | <b>3,637</b> | <b>\$2,046,654</b> | <b>12,763,447</b> | <b>1,842,795</b>  |



## Top Most Traveled Structurally Deficient Bridges in West Virginia

| County     | Year Built | Daily Crossings | Type of Bridge                 | Location                                     |
|------------|------------|-----------------|--------------------------------|----------------------------------------------|
| Monongalia | 1970       | 203,758         | Rural Interstate               | Interstate 79 SB over I-68 Eastbound On-Ramp |
| Kanawha    | 1974       | 86,757          | Urban Interstate               | I-64 WBL & EBL over Cr 61/12                 |
| Kanawha    | 1974       | 58,619          | Urban Interstate               | I-77 NB & SB over Westmoreland Road          |
| Kanawha    | 1974       | 58,619          | Urban Interstate               | I-77 NB & SB over Garrison Avenue            |
| Ohio       | 1968       | 49,381          | Urban Interstate               | Interstate 70 over Middle Creek & Cr 39      |
| Harrison   | 1974       | 46,750          | Urban other principal arterial | US Route 50 over Interstate 79               |
| Kanawha    | 1974       | 45,000          | Urban Interstate               | I-77 NB & SB over Cora Street                |
| Harrison   | 1977       | 43,800          | Urban other principal arterial | US Route 50 over WV 20 & WV 20 Conn.         |
| Ohio       | 1970       | 39,891          | Urban Interstate               | Interstate 70 West over US 40                |
| Kanawha    | 1981       | 36,375          | Rural Interstate               | I-77 over Route 94 and Lens Creek            |

**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.