# National Bridge Inventory: Kentucky

American Road & Transportation Builders Association

## 2021 Bridge Profile

## Highlights from FHWA's 2020 National Bridge Inventory Data

- Of the 14,422 bridges in the state, 1,033, or 7.2 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 1,059 bridges classified as structurally deficient in 2016.
- The deck area of structurally deficient bridges accounts for 4.9 percent of total deck area on all structures.
- 25 of the structurally deficient bridges are on the Interstate Highway System. A total of 96.4 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.
- 4,569 bridges are posted for load, which may restrict the size and weight of vehicles crossing the structure.
- The state has identified needed repairs on 3,328 bridges at an estimated cost of $2.7 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 | 464 | 535,113 | 8,776,191 | 10 | 16,100 | 219,873 |
| Other principal arterial | 767 | 1,011,705 | 4,848,822 | 7 | 13,199 | 63,538 |
| Minor arterial | 670 | 471,480 | 2,823,689 | 23 | 19,422 | 88,243 |
| Major collector | 1,924 | 752,530 | 3,951,816 | 125 | 37,175 | 230,130 |
| Minor collector | 2,431 | 578,036 | 1,636,326 | 213 | 40,773 | 143,559 |
| Local | 5,886 | 832,361 | 1,273,250 | 532 | 56,158 | 108,073 |
| **Urban Bridges** | | | | | | |
| Interstate | 468 | 937,804 | 28,846,216 | 15 | 82,530 | 992,621 |
| Freeway/expressway | 132 | 141,356 | 3,081,072 | 0 | 0 | 0 |
| Other principal arterial | 285 | 460,000 | 4,132,803 | 6 | 6,010 | 113,950 |
| Minor arterial | 507 | 558,128 | 5,524,392 | 23 | 31,187 | 254,789 |
| Collector | 425 | 227,522 | 1,780,846 | 40 | 17,214 | 138,377 |
| Local | 463 | 109,667 | 682,773 | 39 | 6,145 | 41,380 |
| **Total** | **14,422** | **6,615,702** | **67,358,192** | **1,033** | **325,915** | **2,394,533** |

## Proposed Bridge Work

| Type of Work | Number | Cost (millions) | Daily Crossings | Area (sq. meters) |
|---|---|---|---|---|
| Bridge replacement | 627 | $674,877.2 | 1,140,916 | 286,490 |
| Widening & rehabilitation | 2,041 | $1,540,722.3 | 20,318,114 | 1,101,425 |
| Rehabilitation | 533 | $240,838.4 | 829,610 | 140,239 |
| Deck rehabilitation/replacement | 3 | $16,297.7 | 5,712 | 13,163 |
| Other work | 124 | $204,602.2 | 1,050,109 | 163,920 |
| **Total** | **3,328** | **$2,677,337.8** | **23,344,461** | **1,705,236** |

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### Top Most Traveled Structurally Deficient Bridges in Kentucky

| County | Year Built | Daily Crossings | Type of Bridge | Location |
|---|---|---|---|---|
| Jefferson | 1959 | 119,880 | Urban Interstate | I-65 over S Brook, E Kentucky St |
| Jefferson | 1957 | 119,880 | Urban Interstate | I-65 over Hill, CSX RR & Burnett |
| Jefferson | 1965 | 90,900 | Urban Interstate | I-64 over CSX,1St,Flyd,Prestn,Rvr |
| Jefferson | 1972 | 89,929 | Urban Interstate | I-64 over 3rd,5th,Rvr Rd,Belvedere |
| Jefferson | 1974 | 86,651 | Urban Interstate | I-264 EB over Ramp(31W NB to 264WB) |
| Jefferson | 1976 | 72,032 | Urban Interstate | I-64 over Old P and L RR (7-13 St) |
| Jefferson | 1984 | 71,930 | Urban Interstate | I-265 over Avoca-Quarry Rd |
| Jefferson | 1970 | 67,529 | Urban Interstate | I-264 over P and L Railway Wye |
| Jefferson | 1969 | 65,180 | Urban Interstate | I-64 Ramp over N Western Pkwy (Ky 3064) |
| Jefferson | 1967 | 41,584 | Urban other principal arterial | US 42 over I-264 |

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**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.