Transportation for America

# **The Fix We're In For**: The State of Oklahoma's Bridges

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This report was written by Lilly Shoup, Nick Donohue and Marisa Lang with additional contributions from Tanya Mejia, Sean Barry, David Goldberg and Stephen Lee Davis for Transportation for America. Andrew Amey provided invaluable assistance compiling and analyzing the National Bridge Inventory data and Greg Vernon provided the GIS work. Our thanks to the U.S. DOT and FHWA for their cooperation.

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## Contact Us

Transportation for America
1707 L Street NW, Suite 250
Washington, DC 20036
Info@t4america.org
202-955-5543
t4america.org

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# The Fix We're In For: The State of Oklahoma's Bridges

America's infrastructure is beginning to show its age. Our nation's roads, highways and bridges have increasingly received failing scores on maintenance and upkeep. The American Society of Civil Engineers has rated our country's overall infrastructure a "D" and our bridges a "C." For roads and highways, this manifests itself in rutted roadways, cracked pavement and abundant potholes, creating significant costs for drivers and businesses due to increased wear and tear on their vehicles. For the nation's bridges, lack of maintenance can result in the sudden closure of a critical transportation link or, far worse, a collapse that results in lost lives and a significant loss in regional economic productivity.

Despite billions of dollars in annual federal, state and local funds directed toward the maintenance of existing bridges, 69,223 bridges – representing more than 11 percent of total highway bridges – are classified as "structurally deficient," according to the Federal Highway Administration (FHWA.) "Structurally deficient" bridges require significant maintenance, rehabilitation or replacement. In addition, a number of bridges exceed their expected lifespan of 50 years. The average age of an American bridge is 42 years.

The maintenance backlog will only worsen as bridges age and costs rise. According to FHWA's 2009 statistics, $70.9 billion is needed to address the current backlog of deficient bridges.[1] This figure will likely increase as many of our most heavily traveled bridges – including those built more than 40 years ago as part of the Interstate System – near the end of their expected lifespan.

The good news is that some states have worked hard to address the problem and have seen their backlog of deficient bridges shrink in number. The bad news is that, critical as these efforts are, they are not nearly enough. Two key problems persist: (1) An absence of real incentives and assurances at the federal level that fixing aging bridges is a top funding priority; (2) Federal investment in fixing the nation's infrastructure is not currently tied to performance and accountability measures, leaving Americans no concrete assurances of progress. As bridges continue to age and fall into disrepair, our nation's policymakers must make a greater commitment to maintaining and repairing these crucial assets.

## Oklahoma's Bridge Backlog

Out of 50 states and the District of Columbia, Oklahoma ranks 2nd nationally in terms of the overall condition of the state's bridges. (1 being the worst, 51 being the best.)

[1] SAFETEA-LU Funding Tables, FY2009, Table 3, Part 1, "Weighted Needs", p.27, http://www.fhwa.dot.gov/safetealu/fy09comptables.pdf

Today, one out of every five bridges that motorists in Oklahoma cross each day are likely to be deteriorating to some degree; and 22.0 percent of bridges statewide are rated "structurally deficient" according to government standards, compared to 11.5 percent nationwide.

As of 2010, Oklahoma had 23,680 highway bridges: 6,812 of them owned by the state; 15,996 owned by local counties, cities and towns; and 872 owned by other entities, such as private business and federal agencies.[2] Ownership of a particular bridge matters because it often determines which jurisdiction is responsible for maintenance and repair. Table 1 shows the number and average annual daily traffic[3] on Oklahoma's bridges.

### What Qualifies a Bridge as "Structurally Deficient?"

Federal law requires states to inspect all bridges 20 feet or longer at least every two years. Bridges in "very good" condition may go four years between inspections, while those rated "structurally deficient" must be inspected every year.

Highway bridges have three components: 1) the **superstructure**, which supports the deck; 2) the **substructure**, which uses the ground to support the superstructure; and 3) the **deck**, which is the top surface of the bridge that cars, trucks and people cross. During inspection, each of these bridge features is given a rating between 0 and 9, with 9 signifying the best condition. Federal guidelines classify bridges as "**structurally deficient"** if one of the three key components is rated at 4 or less (poor or worse), meaning engineers have identified a major defect in its support structure or its deck.[1] If a bridge is rated "structurally deficient," the bridge requires significant maintenance, rehabilitation or replacement. A state may restrict heavy vehicle traffic, conduct immediate repairs to allow unrestricted use or close the bridge to traffic until repairs can be completed.

*Sources: Federal Highway Administration. "Non-Regulatory Supplement." U.S. Department of Transportation. http://www.fhwa.dot.gov/legsregs/directives/fapg/0650dsup.htm#N_2_*
*Federal Highway Administration. "Conditions & Performance." U.S. Department of Transportation, 2006.*

[2] In this analysis, we use only highway bridges, since that is all that the National Bridge Inspection Program requires states to report in the National Bridge Inventory. Limited data is available for pedestrian bridges
[3] Average amount of traffic that crosses over the bridge each day.

## Table 1: Overview of Oklahoma Bridge Statistics

| | State system | Local system | Other | **Structurally Deficient Bridges** | **Total** |
|---|---|---|---|---|---|
| Number of bridges | 6,812 | 15,996 | 872 | **5,212** | **23,680** |
| Bridge average annual daily traffic | 51,208,786 | 9,180,554 | 7,518,351 | **7,459,023** | **67,907,691** |

Rural bridges often provide crucial access to jobs and medical services for residents in sparsely populated areas. Urban bridges, on the other hand, carry high volumes of traffic to and within regional economic centers. Most bridges in the National Highway System are in rural areas, but urban bridges carry more traffic. Nationally, rural bridges account for 77 percent of all bridges. However, the 23 percent of bridges in urban areas carry almost three-quarters of all national bridge traffic.[4]

Between 1992 and 2010, the number of vehicles traveling across structurally deficient bridges on a daily basis was virtually unchanged (-2 percent), despite billions of dollars spent annually on bridge construction and repair.[5] An increasing number of American individuals and businesses rely on bridges that are subject to closure or weight restriction if increased maintenance and reconstruction are not undertaken — a potentially crippling impact on personal travel and freight movement.

Drivers in Oklahoma are regularly traveling across heavily trafficked bridges with "poor" ratings — bridges that could become dangerous or closed without repair. Table 2 lists the most heavily used structurally deficient bridges throughout Oklahoma, ranked by average annual daily traffic (ADT) counts.

[4] Research and Innovative Technology Administration. Highway Bridges in the United States — An Overview. http://www.bts.gov/publications/special_reports_and_issue_briefs/special_report/2007_09_19/html/entire.html
[5] T4 America's Analysis of FHWA's National Bridge Inventory Data. http://www.fhwa.dot.gov/bridge/britab.cfm.

## Table 2: Oklahoma's Structurally Deficient Bridges with Highest Traffic Volumes

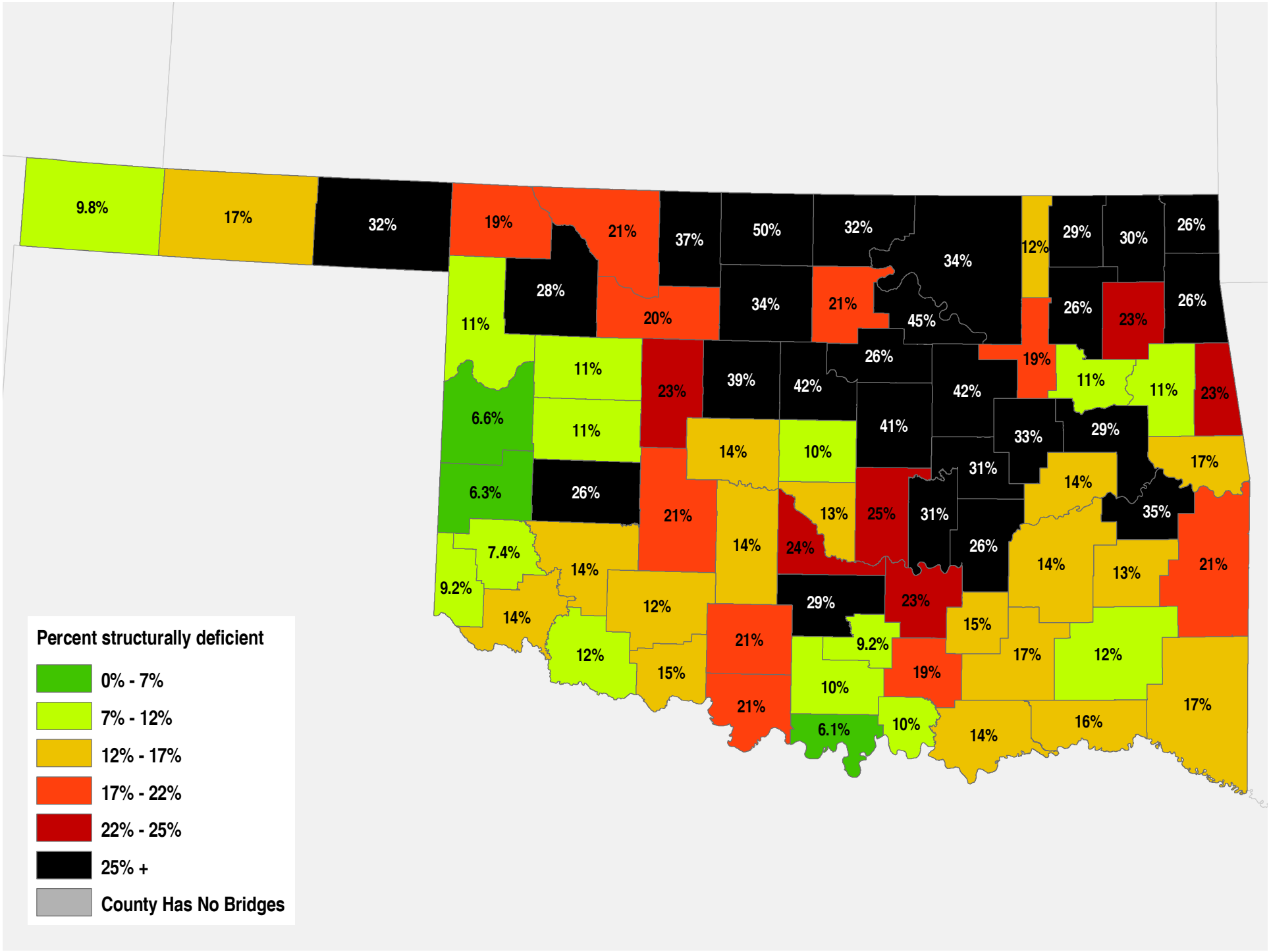
| Rank | County | Bridge Facility | Crosses Feature | Proximity to | Average annual daily traffic |
|---|---|---|---|---|---|
| **1** | Oklahoma County* | I-40 | FAU 9341 (WESTERN) UNDER | 3 MI E OF MAY AVE | 106,700 |
| **2** | Tulsa County | I-244 EB RAMP W-N | I-244 WB UNDER | .10 MI E JCT US 169 | 83,600 |
| **3** | Tulsa County | U.S. 64 / S.H. 51 | UTICA STREET UNDER | 0.8 MI E I-444 | 77,500 |
| **4** | Tulsa County | U.S. 64 / S.H. 51 | ST LOUIS STREET UNDER | 0.7 MI E I-444 | 77,500 |
| **5** | Oklahoma County | I-44 | PENN. AVE. UNDER | 5.11 MI N & E JCT I40 | 75,800 |
| **6** | Tulsa County | I-44 | PEORIA AVE. UNDER | 1.6 MI E JCT US 75 | 72,400 |
| **7** | Tulsa County | I-244 RAMP | I-444 UNDER | 6.9 MI N I-44 | 72,000 |
| **8** | Tulsa County | I-244 E-S RAMP | I-444 UNDER | 6.9 MI N I-44 | 72,000 |
| **9** | Tulsa County | I-444 RAMP E-N | S.W. BLVD. UNDER | 0.1 MI E JCT I-244 | 70,000 |
| **10** | Tulsa County | I-244 | R.R. & ADMIRAL PL. UNDER | 3.62 MI E JCT I 444 | 67,300 |

** Local officials indicate that this bridge is currently under construction.*

Oklahoma has 32 out of 77 counties where the average bridge condition is worse than the statewide average. Table 3 reveals the five counties with the best and worst average bridge conditions. In Figure A, counties are shaded based on their overall percentage of "structurally deficient" bridges. Although smaller or more rural counties have fewer bridges than more populated counties, this measurement allows for cross-comparison between counties of various sizes.

**Table 3: Counties in Oklahoma With Best and Worst Average Bridge Conditions**

| County | # of Highway Bridges | # of Structurally Deficient Bridges | **% Structurally Deficient** |
|---|---|---|---|
| Grant County | 516 | 260 | **50.4%** |
| Pawnee County | 195 | 88 | **45.1%** |
| Logan County | 313 | 131 | **41.9%** |
| Creek County | 423 | 177 | **41.8%** |
| Lincoln County | 511 | 209 | **40.9%** |
| Murray County | 120 | 11 | **9.2%** |
| Greer County | 231 | 17 | **7.4%** |
| Roger Mills County | 152 | 10 | **6.6%** |
| Beckham County | 320 | 20 | **6.3%** |
| Love County | 131 | 8 | **6.1%** |


9.8%
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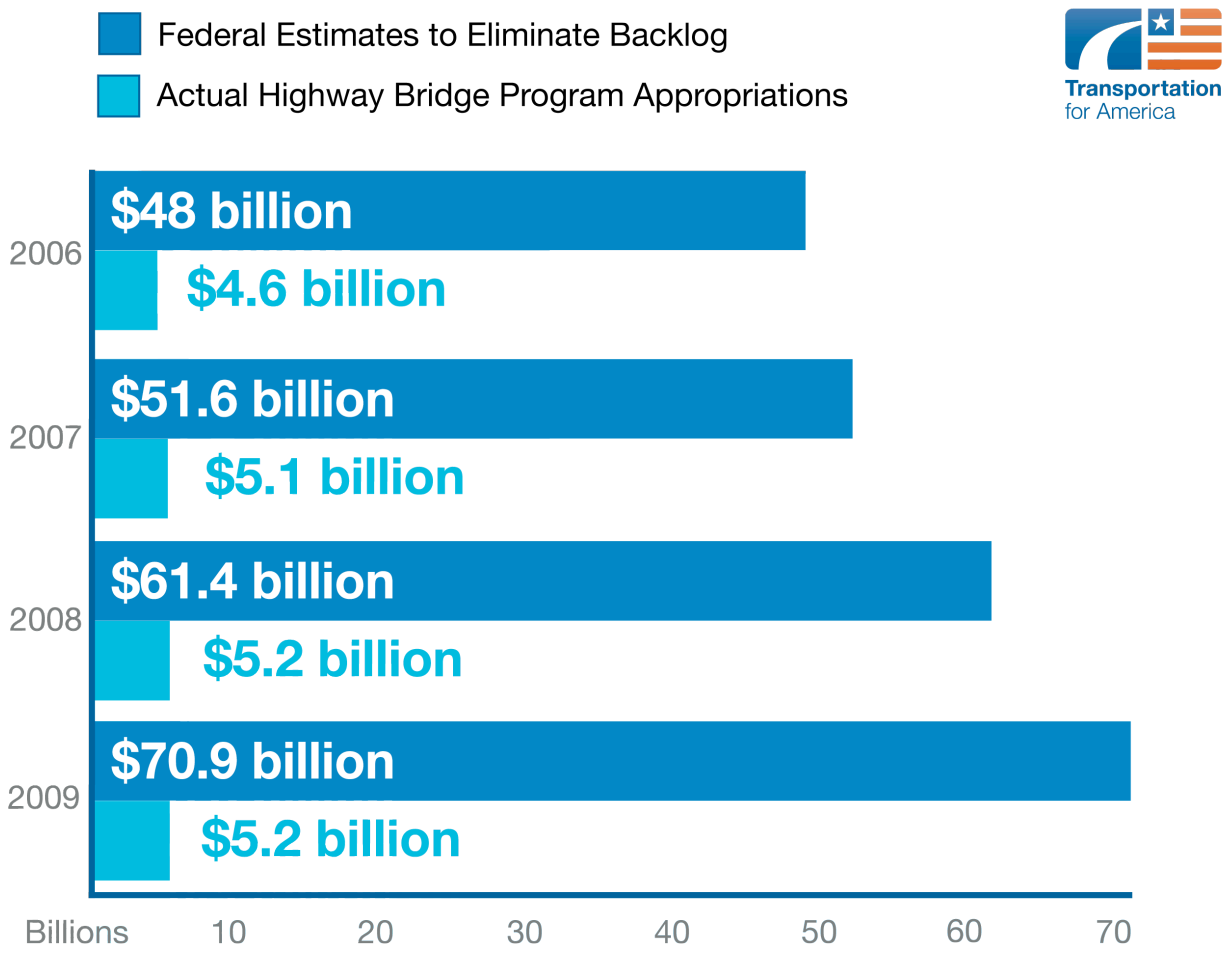
16%
Percent structurally deficient
0% - 7%
7% - 12%
12% - 17%
17% - 22%
22% - 25%
25% +
County Has No Bridges

Congress created the Federal Highway Bridge Program to fix and replace deficient bridges throughout the country, yet current funding is insufficient to keep up with the rapid deterioration rate of U.S. bridges. Figure B compares the size of the bridge program from 2006 through 2009 with FHWA estimates of the sums needed to catch up on the current backlog of repairs. While appropriations have increased by $650 million, bridge needs over the same time period have increased by $22.8 *billion*.

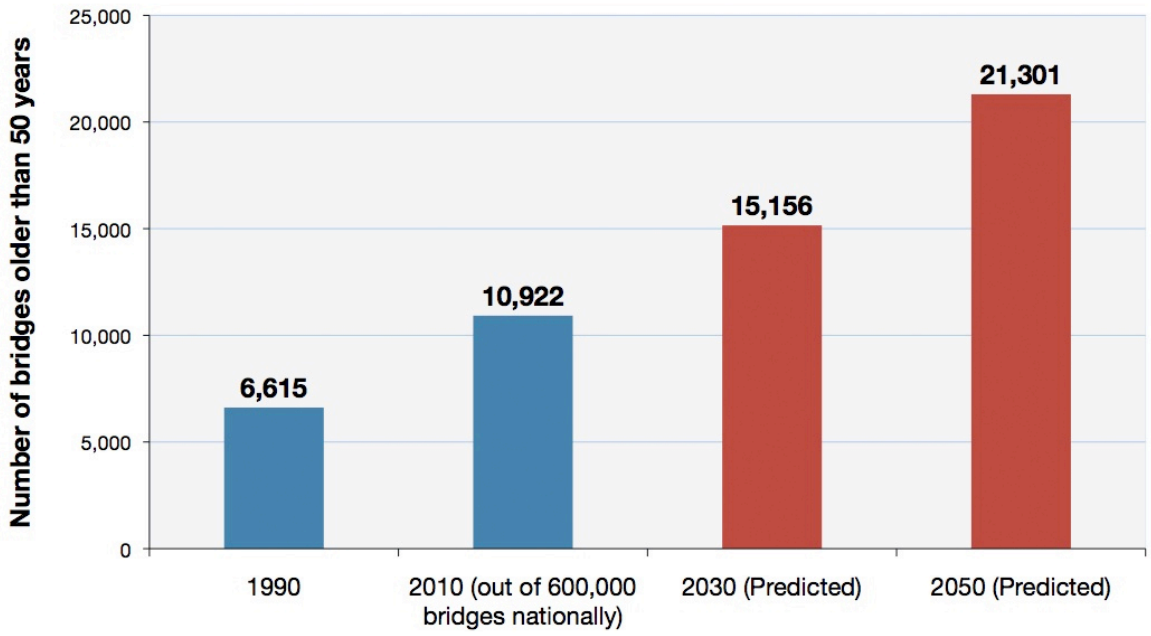
**Figure B: Bridge Repair Funding Levels Versus FHWA Needs Estimate**



# The Cost of Aging Bridges

Regardless of the amount of wear and tear experienced by a specific bridge, most bridges are designed to last roughly 50 years. The average age of bridges in the U.S. is 42 years old. Oklahoma's average is 44.6 years old. The number of "structurally deficient" bridges is virtually guaranteed to increase over time, as a wave of old bridges reach the end of their designed lives. Nationally, more than 185,000 highway bridges (out of 600,000 total) are now 50 years old or older. By 2030, that number could double without substantial bridge replacement, and it has the potential to triple by 2050. With one in five bridges built over 50 years ago, almost half of all the nation's bridges may require major structural investments within the next 15 years.[6]

### Figure C: Oklahoma Bridges over 50 Years Old




[6] *Bridging the Gap: Restoring and Rebuilding the Nation's Bridges*. American Association of State Highway and Transportation Officials. July 2008. http://roughroads.transportation.org/

### Oklahoma's Response to I-35W

Engineers for the Oklahoma Department of Transportation are conducting a design review of 95 bridges on state highways to ensure they comply with new safety standards. The Federal Highway Administration (FHWA) issued new safety standards following the 2007 Minnesota Interstate 35 bridge collapse.

Many of the bridges included in the review were built between 1924 and 1965 with a design resembling the Minnesota's bridge. These Oklahoma bridges utilize a truss system, which includes a structure comprised of one or more triangular units with connecting ends. The truss was the focus of the FHWA's regulatory overview.

ODOT's initial review of 30 bridges resulted in temporary closure for two and weight restrictions for 25. Six of those bridges now have a weight limit of 15 tons, which is equivalent to the weight of a school bus at full capacity. The weight limits, while crucial to preventing further damage and ensuring safety, are a problem for a modern, connected transportation network, posing significant challenges for buses, trucks and other large vehicles.

Overall, Oklahoma has 1,400 bridges out of 6,700 total that are unable to support the weight they were initially designed to carry. However, compared to other states, Oklahoma faces a smaller cost burden and requires more modest fixes to bring its bridges into a state of good repair. The state has made significant progress in overall maintenance and repair since 2000.

Source: NewsOK
http://www.newsok.com/article/3472119?pid=52616e646f6d4956f07ded497a827937b2758462b16313ff

## The Tension Between Fixing the Old and Building the New

Under the existing federal program, transportation agencies have tended to delay needed repairs and preventive maintenance by directing funds toward new construction. In 2008, all states combined spent more than $18 billion, or 30 percent of federal transportation funds, to build new roads or add capacity to existing roads. In that same year, states spent $8.1 billion of federal funds on repair and rehabilitation of bridges, or about 13 percent of total funds. In 2008, Oklahoma spent $134 million, or 19.0 percent of total federal funds, on bridge upkeep.[7] Though we need to continue expanding our transportation system, the safety and preservation of existing bridges and roads must be a higher priority for our long-term economic competitiveness and fiscal sustainability.

[7] Ibid.

## States Can't Keep Up Without Federal Support

Bridges provide crucial access between regions and cities, linking workers to jobs, goods to markets and people to essential services. According to the FHWA, transportation agencies would need $70.9 billion to overcome the current backlog of deficient bridges.[8] This investment would be money well spent, as poor bridge conditions have major implications for traveler safety, mobility and economic activity.

Allowing roads and bridges to slip into disrepair ultimately costs state and local governments billions more than the cost of regular, timely repair. Over a 25-year period, deferring maintenance of bridges and highways can cost three times as much as preventative repairs. The backlog also increases safety risks, hinders economic prosperity and significantly burdens taxpayers. Preservation efforts can also extend the expected service life of a road for an additional 18 years, preventing the need for major reconstruction or replacement.[9] It is imperative that Oklahoma maximize precious tax dollars by extending the useful service life of roads and bridges before major rehabilitation or replacement is required.

[8] SAFETEA-LU Funding Tables, FY2009, Table 3, Part 1, "Weighted Needs", p.27. http://www.fhwa.dot.gov/safetealu/fy09comptables.pdf
[9] American Association of State Highway and Transportation Officials. *Bridging the Gap: Restoring and Rebuilding the Nation's Bridges*. July 2008. http://roughroads.transportation.org/

## The Consequences of Deferred Maintenance

Neglecting bridge repair and maintenance won't just cost more money down the road — the consequences can be far more immediate and disastrous. Deferred maintenance can result in crippling delays if a vital artery is closed, or even worse, if lives are put in danger as aging bridges become unsafe and at risk for collapse.

### Crown Point Bridge Closing

On October 16, 2009, the Champlain/Crown Point bridge linking New York and Vermont was closed without warning. An inspection performed on the bridge as part of a rehabilitation or replacement process, set to start in 2012, revealed that two of the bridge's support piers were not structurally sound. The bridge was a vital economic connection between the states, carrying about 3,500 cars across each day. Thousands of daily commuters now have to drive about 100 miles out of their way to another bridge or pay at least $8 a trip for a ferry. A month later, officials in Vermont and New York announced that the bridge was beyond repair and would have to be demolished. Jim Bonnie, with the New York Department of Transportation, told NPR, "We set aside about $30 million a year for our bridge program, but we need on the order of $100 million to maintain our 830 bridges. So, it's just an epidemic."

### Minneapolis' I-35W Collapse

On August 1, 2007, the I-35W bridge in Minneapolis, Minnesota abruptly failed, falling into the Mississippi River, killing 13 people and injuring 145. Following the incident, the National Transportation Safety Board (NTSB) undertook a year-long investigation to determine the cause of the collapse. Though the "structurally deficient" bridge was being inspected every year, the NTSB found that the bridge design was flawed; its gusset plates were undersized and not meant to support the kind of loads the bridge was carrying. The cause of the collapse, in the NTSB's opinion, was the increased weight of the bridge itself due to previous modifications, and the concentrated weight of construction materials present on the deck of the bridge on the day of the collapse.

In addition to the safety imperative, investing in the construction, expansion and repair of our nation's transportation infrastructure creates jobs while laying the foundation for long-term economic prosperity. Repair work on roads and bridges generates 16 percent more jobs than new bridge and road construction.[10]

[10] Smart Growth for America. *The Best Stimulus for The Money. www.smartgrowthamerica.org/**stimulus**.html*

For all these reasons, Congress repeatedly has declared the condition and safety of our bridges to be of national significance. However, the current federal program is not designed to ensure that transportation agencies have enough money and accountability to get the job done.

## Recommendations

**As our nation's bridges continue to age Congress needs to provide states with increased resources to repair and rebuild them**. As the chart earlier in this report shows, the federal transportation program currently provides only a fraction of the necessary funds for maintenance and repair. Although a number of states are making repair of existing assets a priority, more support from the federal government is essential. The nation's bridges are aging and traffic demands are increasing. Though the size of the federal program has increased by 14 percent between 2006 and 2009, state-level needs increased by 47 percent.

**Congress also needs to take steps to make sure that funds sent to states for bridge repair are used only for that purpose.** Today states can transfer bridge funds for other purposes – even if they have bridges that are in need of repair. These funds should only be used for other purposes if the state's bridges are in a state of good repair. In addition, states should be given the flexibility to develop long-term programs that focus on both keeping bridges in good condition and fixing or replacing bridges that are deficient. Even in instances where it is more cost-effective to perform regular repair on a bridge to prevent it from becoming deficient, the current federal program only allows states to fix a bridge that is structurally deficient with a low sufficiency rating.

**Some states across the country are already taking the right steps to repair their infrastructure. These best practices could serve as a model for other states and work with an improved federal program to fix our nation's bridges.** Michigan, for example, has greatly increased the ratio of spending on routine maintenance and pavement preservation vis-à-vis capacity increases and/or new roads by attempting to meet a goal of 95 percent of freeways and 85 percent of non-freeways in good condition by 2007, a goal established by Michigan's State Transportation Commission in 1997. The Florida Department of Transportation is bound by state statute that lists preservation as the first of three "prevailing principles," and sets maintenance standards for pavement and bridges.

**When our aging bridges are replaced, they must be designed to provide safe access for all who need to use them, whether they are in vehicles, on foot or bicycle, or using public transit.**

# Conclusion

We cannot continue to ignore our transportation network's vital maintenance needs. The costs of current practices are well known, as roads and bridges continue to display the effects of wear and age, suffering the results of underinvestment. Without a change in both spending levels and overall priorities, Oklahoma will need $480 from each driver to fix all of the structurally deficient bridges. As our bridges continue to age – more than 60 percent of all bridges will be past their useful life in 2030 – this figure will only grow.

Preserving Oklahoma's existing transportation system is crucial to ensuring regional prosperity, safety and a higher quality of life. The economic and social cost of neglect is simply too high. It is time for our policymakers to shore up our infrastructure and ensure Americans get the most bang for our transportation buck.

### Appendix A: Oklahoma Counties, Ranked by Percentage of Structurally Deficient Bridges

| County | Number of bridges | Number of structurally deficient bridges | **Percentage of bridges that are structurally deficient** | Bridge average annual daily traffic | Average annual daily traffic on SD bridges |
|---|---|---|---|---|---|
| Grant County | 516 | 260 | **50.40%** | 97,703 | 30,957 |
| Pawnee County | 195 | 88 | **45.10%** | 264,057 | 45,567 |
| Logan County | 313 | 131 | **41.90%** | 395,934 | 38,640 |
| Creek County | 423 | 177 | **41.80%** | 1,382,703 | 77,707 |
| Lincoln County | 511 | 209 | **40.90%** | 814,903 | 56,679 |
| Kingfisher County | 339 | 131 | **38.60%** | 156,839 | 23,281 |
| Alfalfa County | 401 | 149 | **37.20%** | 96,429 | 26,609 |
| Haskell County | 155 | 55 | **35.50%** | 133,135 | 21,590 |
| Garfield County | 586 | 202 | **34.50%** | 459,548 | 40,255 |
| Osage County | 364 | 125 | **34.30%** | 297,605 | 50,893 |
| Okmulgee County | 319 | 106 | **33.20%** | 650,775 | 94,635 |
| Kay County | 416 | 134 | **32.20%** | 563,115 | 119,794 |
| Beaver County | 222 | 71 | **32.00%** | 107,928 | 8,412 |

| County | Number of bridges | Number of structurally deficient bridges | **Percentage of bridges that are structurally deficient** | Bridge average annual daily traffic | Average annual daily traffic on SD bridges |
|---|---|---|---|---|---|
| Seminole County | 338 | 106 | **31.40%** | 453,970 | 74,903 |
| Okfuskee County | 228 | 70 | **30.70%** | 304,755 | 42,850 |
| Craig County | 181 | 55 | **30.40%** | 454,455 | 42,303 |
| Muskogee County | 395 | 116 | **29.40%** | 1,280,813 | 75,595 |
| Garvin County | 410 | 120 | **29.30%** | 662,212 | 102,339 |
| Nowata County | 123 | 36 | **29.30%** | 108,976 | 20,674 |
| Woodward County | 201 | 57 | **28.40%** | 236,542 | 20,115 |
| Payne County | 400 | 105 | **26.30%** | 683,598 | 55,475 |
| Ottawa County | 266 | 69 | **25.90%** | 828,028 | 100,748 |
| Delaware County | 162 | 42 | **25.90%** | 258,486 | 25,057 |
| Hughes County | 223 | 57 | **25.60%** | 161,038 | 17,288 |
| Rogers County | 270 | 69 | **25.60%** | 1,473,494 | 304,045 |
| Washita County | 450 | 115 | **25.60%** | 262,593 | 14,395 |
| Pottawatomie County | 486 | 120 | **24.70%** | 1,119,959 | 92,032 |
| McClain County | 263 | 63 | **24.00%** | 1,126,034 | 111,250 |
| Mayes County | 227 | 53 | **23.30%** | 716,180 | 62,312 |
| Adair County | 142 | 33 | **23.20%** | 148,269 | 14,830 |
| Blaine County | 293 | 68 | **23.20%** | 104,387 | 10,293 |
| Pontotoc County | 266 | 60 | **22.60%** | 334,924 | 44,334 |
| Le Flore County | 480 | 102 | **21.30%** | 765,357 | 40,026 |
| Jefferson County | 151 | 32 | **21.20%** | 92,534 | 13,951 |
| Stephens County | 400 | 83 | **20.80%** | 382,164 | 14,759 |
| Caddo County | 479 | 99 | **20.70%** | 575,939 | 30,933 |
| Woods County | 325 | 67 | **20.60%** | 77,888 | 13,362 |
| Noble County | 345 | 71 | **20.60%** | 547,013 | 39,262 |

| County | Number of bridges | Number of structurally deficient bridges | **Percentage of bridges that are structurally deficient** | Bridge average annual daily traffic | Average annual daily traffic on SD bridges |
|---|---|---|---|---|---|
| Major County | 275 | 55 | **20.00%** | 126,876 | 19,955 |
| Johnston County | 154 | 29 | **18.80%** | 100,768 | 17,813 |
| Tulsa County | 1031 | 191 | **18.50%** | 16,390,817 | 3,215,846 |
| Harper County | 135 | 25 | **18.50%** | 76,099 | 4,648 |
| Sequoyah County | 265 | 45 | **17.00%** | 1,055,590 | 72,264 |
| Atoka County | 254 | 43 | **16.90%** | 394,510 | 8,401 |
| McCurtain County | 270 | 45 | **16.70%** | 331,709 | 34,044 |
| Texas County | 121 | 20 | **16.50%** | 101,185 | 9,230 |
| Choctaw County | 229 | 37 | **16.20%** | 184,932 | 8,182 |
| Coal County | 147 | 22 | **15.00%** | 116,568 | 8,174 |
| Cotton County | 219 | 32 | **14.60%** | 233,488 | 6,138 |
| Jackson County | 309 | 44 | **14.20%** | 174,634 | 2,488 |
| Bryan County | 274 | 39 | **14.20%** | 560,878 | 24,990 |
| Pittsburg County | 422 | 60 | **14.20%** | 798,216 | 43,124 |
| McIntosh County | 204 | 29 | **14.20%** | 563,352 | 69,953 |
| Kiowa County | 476 | 67 | **14.10%** | 177,963 | 20,410 |
| Canadian County | 457 | 63 | **13.80%** | 1,489,270 | 152,070 |
| Grady County | 474 | 64 | **13.50%** | 794,485 | 24,387 |
| Latimer County | 193 | 26 | **13.50%** | 150,060 | 9,827 |
| Cleveland County | 301 | 39 | **13.00%** | 2,180,420 | 91,534 |
| Washington County | 206 | 25 | **12.10%** | 403,392 | 34,630 |
| Comanche County | 564 | 68 | **12.10%** | 1,636,883 | 30,471 |
| Pushmataha County | 242 | 29 | **12.00%** | 196,366 | 8,937 |
| Tillman County | 294 | 35 | **11.90%** | 100,995 | 1,326 |
| Custer County | 416 | 47 | **11.30%** | 600,802 | 2,844 |

| County | Number of bridges | Number of structurally deficient bridges | **Percentage of bridges that are structurally deficient** | Bridge average annual daily traffic | Average annual daily traffic on SD bridges |
|---|---|---|---|---|---|
| Ellis County | 153 | 17 | **11.10%** | 76,164 | 4,340 |
| Wagoner County | 244 | 27 | **11.10%** | 917,986 | 20,734 |
| Dewey County | 177 | 19 | **10.70%** | 64,319 | 3,277 |
| Cherokee County | 200 | 21 | **10.50%** | 349,973 | 22,040 |
| Marshall County | 77 | 8 | **10.40%** | 94,840 | 5,490 |
| Carter County | 334 | 34 | **10.20%** | 881,472 | 49,379 |
| Oklahoma County | 1144 | 116 | **10.10%** | 16,470,455 | 1,383,396 |
| Cimarron County | 92 | 9 | **9.80%** | 62,632 | 1,069 |
| Harmon County | 109 | 10 | **9.20%** | 31,604 | 880 |
| Murray County | 120 | 11 | **9.20%** | 349,436 | 1,894 |
| Greer County | 231 | 17 | **7.40%** | 45,912 | 1,146 |
| Roger Mills County | 152 | 10 | **6.60%** | 53,774 | 5,810 |
| Beckham County | 320 | 20 | **6.30%** | 554,170 | 12,207 |
| Love County | 131 | 8 | **6.10%** | 434,414 | 7,525 |