

# The Fix We're In For: The State of Our Nation's Busiest Bridges

**TRANSPORTATION FOR AMERICA // OCTOBER 2011** 

This report was written by Stephen Lee Davis with additional contributions from Kevin DeGood, Nick Donohue and David Goldberg of Transportation for America. Our thanks also go to the USDOT and FHWA for their cooperation on the National Bridge Inventory Data. Released October 19, 2011.

# **Executive Committee**

Smart Growth America (co-chair)
Reconnecting America (co-chair)
Alternatives for Community & Environment
America Bikes
American Public Health Association (APHA)
Apollo Alliance at the Blue Green Alliance
LOCUS: Responsible Real Estate Developers

and Investors

National Association of City Transportation

Officials

National Association of Realtors
National Housing Conference
Natural Resources Defense Council
PolicyLink
Rails-to-Trails Conservancy
The Surface Transportation Policy Partnership
Transit for Livable Communities
U.S. Public Interest Research Group

# About Transportation for America

Transportation for America (T4 America) is the largest, most diverse coalition working on transportation reform today. Our nation's transportation network is based on a policy that has not been significantly updated since the 1950's. We believe it is time for a bold new vision — transportation that guarantees our freedom to move however we choose and leads to a stronger economy, greater energy security, cleaner environment and healthier America for all of us. We're calling for more responsible investment of our federal tax dollars to create a safer, cleaner, smarter transportation system that works for everyone.

# Contact us

Transportation for America 1707 L Street NW, Suite 250 Washington, D.C. 20036 202.955.5543 info@t4america.org



# The state of our nation's busiest bridges

Pounded by heavy traffic day in and day out, the bridges in our metropolitan areas are indispensable links in the transportation system that takes millions of people to work and goods to market every day. And they threaten to become weak links, as they age and deteriorate in an era when public investment in infrastructure is shrinking in relative terms..

The impact of a failure to attend to our bridges became all too clear in September, 2011, when the governors of Kentucky and Indiana were forced to close the busy Sherman Minton Bridge in metropolitan Louisville after inspectors found cracks in its structural beams. The closure made national

headlines as Louisville traffic was snarled and millions of Americans wondered about the condition of the busy bridges they have to cross each day.

With the majority of American bridges soon due for major maintenance, overhaul or replacement, scenarios such as this could begin playing out with increasing frequency absent concerted effort and investment.

# The largest 102 metropolitan areas

Transportation for America conducted an analysis of the National Bridge Inventory, a database produced by the Federal Highway Administration (FHWA), and found one in nine U.S. bridges has been rated "structurally deficient." This means that the bridge is in need of more frequent

Creative Commons photo by Flickr user Cindy 47452. http://www.flickr.com/photos/cindy47452/6142355240/



#### McDonald's vs. deficient bridges in 102 largest US metropolitan areas



~14,000

Number of US locations

18,239

Number of deficient bridges



#### 64 million

Daily customers served worldwide

#### 210 million

Trips taken daily on deficient bridges

monitoring and critical, near-term maintenance, rehabilitation or replacement.

Structurally deficient bridges in metropolitan areas carry a disproportionate share of all trips

#### About the data

The bridge data used in this report is derived from the Federal Highway Administration's (FHWA) 2010 National Bridge Inventory (NBI) released in February 2011. NBI's annual data provides a significant level of detail on the condition of over 700,000 bridges nationwide. Bridges are inspected every two years, unless they're in "very good" condition (four years) or "structurally deficient" (every year.)

In the time since the data was gathered, some bridges have been repaired or replaced and others have deteriorated and become deficient. But this data set is the best way to compare and rank different states and counties in this complex and dynamic system. It is the most recent, most comprehensive data we could obtain for the country as a whole.

taken on a deficient bridge each day. In fact, deficient bridges in the largest 102 metropolitan areas carry three-quarters of all traffic crossing a deficient bridge. Put another way, there are more deficient bridges in these 102 regions than there are McDonald's restaurants in the entire country – 18,239 versus about

14,000. Worldwide, McDonald's serves a staggering 64 million people a day. But here in America, 210 million trips are taken daily across deficient bridges in just these 102 regions.

Pennsylvania leads all other states in the nation with six metropolitan areas with a high percentage of deficient bridges. Pittsburgh leads the way with 30 percent of area bridges rated deficient — higher even than the state average of 26.5 percent. It is important to note that these numbers would be worse without the intensive bridge repair program implemented by Pennsylvania in the last several years, including a quadrupling of state funding for bridge repairs.

California leads the nation with the busiest deficient bridges. In Los Angeles, for example, 396 cars drive across a structurally deficient bridge every second of each day, on average. When ranking metros by the sheer volume of traffic on deficient bridges, California regions take several of the top spots, with the daily volume in Los Angeles at number one, more than double that of second place New York.

# Metros 500,000 - 1 million, ranked by percent of deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	929,015	Tulsa, OK	27.5%	783	3,809,427	44
2	507,766	Lancaster, PA	26.5%	198	734,532	9
3	549,454	Scranton, PA	26.1%	239	1,157,189	13
4	562,906	Des Moines, IA	24.3%	358	559,735	6
5	816,012	Allentown, PA	21.5%	234	1,374,885	16
6	849,517	Omaha, NE	19.0%	492	466,802	5
7	562,963	Youngstown, OH	18.9%	228	789,241	9
8	536,919	Harrisburg, PA	18.4%	175	891,188	10
9	674,860	Stockton, CA	18.0%	115	2,453,016	28
10	714,765	Greensboro, NC	16.0%	199	1,014,005	12

### Metros 1-2 million, ranked by percent of deficient bridges

1	1,227,278	Oklahoma City, OK	19.8%	685	1,857,956	22
2	1,839,700	San Jose, CA	18.7%	189	5,906,551	68
3	1,600,642	Providence, RI	18.6%	212	3,933,150	46
4	1,745,524	Charlotte, NC	12.1%	217	1,060,518	12
5	1,035,566	Rochester, NY	12.0%	142	1,171,304	14
6	1,801,848	Columbus, OH	11.1%	323	1,736,553	20
7	1,743,658	Indianapolis, IN	10.9%	346	2,069,074	24
8	1,304,926	Memphis, TN	9.9%	247	1,320,211	15
9	1,131,070	Birmingham, AL	9.7%	227	1,284,706	15
10	1,125,827	Raleigh, NC	9.7%	105	670,610	8

## Metros over 2 million, ranked by percent of deficient bridges

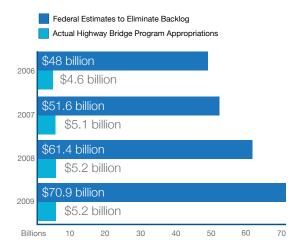
1	2,354,957	Pittsburgh, PA	30.4%	1133	4,944,931	57
2	4,317,853	San Francisco, CA	20.9%	380	15,600,871	181
3	5,968,252	Philadelphia, PA	20.0%	907	9,355,193	108
4	2,127,355	Sacramento, CA	15.4%	211	5,135,871	59
5	4,143,113	Riverside, CA	12.2%	296	5,020,110	58
6	2,067,585	Kansas City, MO	12.1%	617	2,041,581	24
7	4,588,680	Boston, MA	11.7%	308	7,872,648	91
8	4,403,437	Detroit, MI	11.5%	286	4,212,716	49
9	2,091,286	Cleveland, OH	11.4%	213	2,453,811	28
10	19,069,796	New York, NY	9.8%	778	17,505,467	203

# Structurally deficient bridges

America's infrastructure is showing its age. Despite billions of dollars in annual federal, state and local funds directed toward the maintenance of bridges, 69,223 bridges overall are classified as "structurally deficient," according to the Federal Highway Administration (FHWA). Moreover, many bridges have exceeded their 50-year design lifespan. Without significant investment in repair this trend is likely to worsen as the average age of an American bridge is 42 years. According to FHWA's 2009 statistics (the most recent year for which national data are available), \$70.9 billion is needed to address the current backlog of deficient bridges.

The good news is that some states have worked hard to address the problem and have reduced the backlog of deficient bridges. The bad news is that, critical as these efforts are, they are not nearly enough.

# Bridge Repair Funding Levels Versus FHWA Needs Estimate



Two key problems persist: First, while Congress has repeatedly declared bridge safety a national priority, existing federal programs offer no real incentives or assurances that aging bridges will actually get fixed. Second, the current level of investment is nowhere near what is needed to keep up with our rapidly growing backlog of aging bridges.

# The metropolitan connection

The silver lining for elected officials, planners, and the public is that focusing increased investment in metropolitan areas can dramatically improve safety and performance. We can have the greatest impact on the largest number of people each day by prioritizing heavily traveled deficient bridges in major metropolitan areas. In fact, repairing or replacing all of the structurally deficient bridges in the largest 102 metropolitan areas would result in a 75 percent reduction in the total number of trips taken on deficient bridges each year.

Tackling a project of that size would mean tens of thousands, even millions, of new construction jobs. And several analyses have shown that repair creates more jobs per dollar than new highway construction.

The problem of deficient bridges in our metropolitan areas is a stubborn one that current transportation programs have not been able to address adequately. There are several reasons why many of these bridges remain in poor condition.

Large metropolitan bridges are complicated to repair or replace, given their sheer size and the com-

plexity of working around thousands of motorists each day. They are extremely expensive to overhaul or replace. In Louisville, KY, for example, replacing the Sherman Minton bridge and another key span in need of attention would cost an estimated \$4 billion. With the federal government's current level of funding for bridge repair, that project would take 14 years and consume every dollar of the combined repair funds apportioned to Ohio and Kentucky.

#### Recommendations

As an increasing number of our bridges reach – and pass – their original design life spans, repairing the nation's biggest and busiest bridges will require a national strategy that is not possible under a program where money is distributed to states by formula with little accountability.

Simply put, the current federal program does not provide enough dedicated funding to repair and rebuild the most critical high-traffic bridges. From 2006 to 2009 the cost to fix structurally deficient bridges rose almost 50% from \$48 billion to \$70.9 billion, while the amount of funding provided to states for bridge repair only increased 13%. However, we cannot solve this problem simply by providing more money.

We need a fundamental shift in policy to ensure that we take care of our existing infrastructure. States should be required to develop asset management plans that prioritize the repair and maintenance of aging roads and bridges. We need clear priorities to ensure that money set aside for repair can't be spent on other things, and is directed to the most pressing needs.

It is important to note that while many of the nation's busiest structurally deficient bridges are located in metropolitan regions, current practices don't always achieve the level of shared responsibility and coordination among state and local governments that is needed to prioritize the most urgent repair work. While many of the biggest bridges are owned by state departments of transportation, some are owned by city or county governments. Under federal law, federal funds for bridge repair flow only to the states, not local governments. Ultimately, decisions concerning the use of federal funding for bridge repair reside with the states. Local governments must play a stronger role in setting transportation investment priorities, which can be accomplished through greater coordination and so-called "suballocation" of transportation funding to regional and local governments. Without better coordination, priority setting, and "suballocation" there is little guarantee that additional funding will be directed to the most pressing repair needs.

Finally, it would be a tragic and shortsighted trade-off to do as some members of Congress have suggested and eliminate funding for safe walking and bicycling in the name of bridge repair. Existing sums for those safety projects are far too small to make a significant dent in bridge repair, but they are vital in preventing fatalities and addressing the demand for safe access by foot and bicycle.

These following tables contain the full metropolitan area rankings. The following 6 tables are broken up by metropolitan area population: 1) 500,000-1 million, 2) 1-2 million, and 3) over 2 million. And each grouping of metros by population are ranked two ways: 1) percentage of metropolitan area bridges that are deficient, and 2) by volume of average daily traffic that travels over deficient bridges in metropolitan areas.

Table 1: Metros 500,000 - 1 million ranked by percent of deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	929,015	Tulsa, OK	27.50%	783	3,809,427	44
2	507,766	Lancaster, PA	26.50%	198	734,532	9
3	549,454	ScrantonWilkes-Barre, PA	26.10%	239	1,157,189	13
4	562,906	Des Moines-West Des Moines, IA	24.30%	358	559,735	6
5	816,012	Allentown-Bethlehem-Easton, PA-NJ	21.50%	234	1,374,885	16
6	849,517	Omaha-Council Bluffs, NE-IA	19.00%	492	466,802	5
7	562,963	Youngstown-Warren-Boardman, OH-PA	18.90%	228	789,241	9
8	536,919	Harrisburg-Carlisle, PA	18.40%	175	891,188	10
9	674,860	Stockton, CA	18.00%	115	2,453,016	28
10	714,765	Greensboro-High Point, NC	16.00%	199	1,014,005	12
11	516,826	Portland-South Portland-Biddeford, ME	15.80%	96	486,150	6
12	744,730	Columbia, SC	14.60%	159	751,028	9
13	539,154	Augusta-Richmond County, GA-SC	13.40%	89	196,635	2
14	698,903	Springfield, MA	13.10%	127	1,027,770	12
15	901,208	Bridgeport-Stamford-Norwalk, CT	12.90%	107	1,381,796	16
16	699,935	Akron, OH	12.70%	104	1,022,023	12
17	677,094	Poughkeepsie-Newburgh-Middle- town, NY	12.20%	98	662,288	8
18	857,592	Albany-Schenectady-Troy, NY	11.90%	132	676,318	8
19	646,084	Syracuse, NY	11.90%	104	588,596	7
20	802,983	Oxnard-Thousand Oaks-Ventura, CA	11.80%	57	1,050,590	12
21	915,267	Fresno, CA	11.50%	101	1,192,214	14
22	510,385	Modesto, CA	11.50%	44	222,872	3
23	540,866	Jackson, MS	11.30%	205	253,077	3

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
24	639,617	Greenville-Mauldin-Easley, SC	11.20%	126	440,658	5
25	659,191	Charleston-North Charleston-Summerville, SC	11.10%	76	294,962	3
26	835,063	Dayton, OH	11.00%	184	1,155,286	13
27	672,220	Toledo, OH	10.90%	144	838,717	10
28	570,025	Madison, WI	10.60%	97	534,658	6
29	778,009	Grand Rapids-Wyoming, MI	10.00%	74	513,603	6
30	803,701	Worcester, MA	9.90%	98	1,118,314	13
31	807,407	Bakersfield, CA	9.80%	61	832,601	10
32	786,947	Baton Rouge, LA	9.50%	155	524,433	6
33	907,574	Honolulu, HI	7.90%	52	1,574,730	18
34	606,376	Boise City-Nampa, ID	7.10%	51	383,995	4
35	848,006	New Haven-Milford, CT	6.50%	56	1,323,898	15
36	501,228	Durham, NC	6.50%	53	224,390	3
37	857,903	Albuquerque, NM	6.40%	51	229,128	3
38	626,227	Colorado Springs, CO	6.10%	40	381,762	4
39	612,683	Wichita, KS	5.70%	166	213,646	2
40	685,488	Little Rock-North Little Rock-Con-	5.10%	76	1,008,476	12
		way, AR				
41	699,247	Knoxville, TN	5.00%	56	172,655	2
42	524,303	Chattanooga, TN-GA	4.90%	49	799,870	9
43	555,551	Provo-Orem, UT	3.30%	10	297,479	3
44	541,569	Ogden-Clearfield, UT	3.20%	10	304,190	4
45	536,357	Palm Bay-Melbourne-Titusville, FL	3.00%	7	98,736	1
46	741,152	McAllen-Edinburg-Mission, TX	1.60%	6	1,430	0
47	751,296	El Paso, TX	0.80%	5	72,380	1
48	688,126	Bradenton-Sarasota-Venice, FL	0.80%	4	18,202	0
49	583,403	Lakeland-Winter Haven, FL	0.60%	2	12,030	0
50	586,908	Cape Coral-Fort Myers, FL	0.30%	1	101	0

Table 2: Metros 500,000 - 1 million ranked by avg. daily traffic on deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	929,015	Tulsa, OK	27.50%	783	3,809,427	44
2	674,860	Stockton, CA	18.00%	115	2,453,016	28
3	907,574	Honolulu, HI	7.90%	52	1,574,730	18
4	901,208	Bridgeport-Stamford-Norwalk, CT	12.90%	107	1,381,796	16
5	816,012	Allentown-Bethlehem-Easton, PA-NJ	21.50%	234	1,374,885	16
6	848,006	New Haven-Milford, CT	6.50%	56	1,323,898	15
7	915,267	Fresno, CA	11.50%	101	1,192,214	14
8	549,454	ScrantonWilkes-Barre, PA	26.10%	239	1,157,189	13
9	835,063	Dayton, OH	11.00%	184	1,155,286	13
10	803,701	Worcester, MA	9.90%	98	1,118,314	13
11	802,983	Oxnard-Thousand Oaks-Ventura, CA	11.80%	57	1,050,590	12
12	698,903	Springfield, MA	13.10%	127	1,027,770	12
13	699,935	Akron, OH	12.70%	104	1,022,023	12
14	714,765	Greensboro-High Point, NC	16.00%	199	1,014,005	12
15	685,488	Little Rock-North Little Rock-Conway, AR	5.10%	76	1,008,476	12
16	536,919	Harrisburg-Carlisle, PA	18.40%	175	891,188	10
17	672,220	Toledo, OH	10.90%	144	838,717	10
18	807,407	Bakersfield, CA	9.80%	61	832,601	10
19	524,303	Chattanooga, TN-GA	4.90%	49	799,870	9
20	562,963	Youngstown-Warren-Boardman, OH-PA	18.90%	228	789,241	9
21	744,730	Columbia, SC	14.60%	159	751,028	9
22	507,766	Lancaster, PA	26.50%	198	734,532	9
23	857,592	Albany-Schenectady-Troy, NY	11.90%	132	676,318	8
24	677,094	Poughkeepsie-Newburgh-Middle- town, NY	12.20%	98	662,288	8
25	646,084	Syracuse, NY	11.90%	104	588,596	7
26	562,906	Des Moines-West Des Moines, IA	24.30%	358	559,735	6
27	570,025	Madison, WI	10.60%	97	534,658	6
_	0.0,520		. 5.55 / 5	-		

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
28	786,947	Baton Rouge, LA	9.50%	155	524,433	6
29	778,009	Grand Rapids-Wyoming, MI	10.00%	74	513,603	6
30	516,826	Portland-South Portland-Biddeford, ME	15.80%	96	486,150	6
31	849,517	Omaha-Council Bluffs, NE-IA	19.00%	492	466,802	5
32	639,617	Greenville-Mauldin-Easley, SC	11.20%	126	440,658	5
33	606,376	Boise City-Nampa, ID	7.10%	51	383,995	4
34	626,227	Colorado Springs, CO	6.10%	40	381,762	4
35	541,569	Ogden-Clearfield, UT	3.20%	10	304,190	4
36	555,551	Provo-Orem, UT	3.30%	10	297,479	3
37	659,191	Charleston-North Charleston-Summerville, SC	11.10%	76	294,962	3
38	540,866	Jackson, MS	11.30%	205	253,077	3
39	857,903	Albuquerque, NM	6.40%	51	229,128	3
40	501,228	Durham, NC	6.50%	53	224,390	3
41	510,385	Modesto, CA	11.50%	44	222,872	3
42	612,683	Wichita, KS	5.70%	166	213,646	2
43	539,154	Augusta-Richmond County, GA-SC	13.40%	89	196,635	2
44	699,247	Knoxville, TN	5.00%	56	172,655	2
45	536,357	Palm Bay-Melbourne-Titusville, FL	3.00%	7	98,736	1
46	751,296	El Paso, TX	0.80%	5	72,380	1
47	688,126	Bradenton-Sarasota-Venice, FL	0.80%	4	18,202	0
48	583,403	Lakeland-Winter Haven, FL	0.60%	2	12,030	0
49	741,152	McAllen-Edinburg-Mission, TX	1.60%	6	1,430	0
50	586,908	Cape Coral-Fort Myers, FL	0.30%	1	101	0

Table 3: Metros 1-2 million ranked by percent of deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	1,227,278	Oklahoma City, OK	19.80%	685	1,857,956	22
2	1,839,700	San Jose-Sunnyvale-Santa Clara, CA	18.70%	189	5,906,551	68
3	1,600,642	Providence-New Bedford-Fall River, RI-MA	18.60%	212	3,933,150	46
4	1,745,524	Charlotte-Gastonia-Concord, NC-SC	12.10%	217	1,060,518	12
5	1,035,566	Rochester, NY	12.00%	142	1,171,304	14
6	1,801,848	Columbus, OH	11.10%	323	1,736,553	20
7	1,743,658	Indianapolis-Carmel, IN	10.90%	346	2,069,074	24
8	1,304,926	Memphis, TN-MS-AR	9.90%	247	1,320,211	15
9	1,131,070	Birmingham-Hoover, AL	9.70%	227	1,284,706	15
10	1,125,827	Raleigh-Cary, NC	9.70%	105	670,610	8
11	1,238,187	Richmond, VA	9.10%	175	2,257,134	26
12	1,559,667	Milwaukee-Waukesha-West Allis, WI	8.80%	128	1,498,923	17
13	1,123,804	Buffalo-Niagara Falls, NY	8.60%	99	591,016	7
14	1,258,577	Louisville/Jefferson County, KY-IN	8.40%	163	2,875,341	33
15	1,195,998	Hartford-West Hartford-East Hartford, CT	7.90%	108	1,168,144	14
16	1,189,981	New Orleans-Metairie-Kenner, LA	6.50%	81	769,701	9
17	1,674,498	Virginia Beach-Norfolk-Newport News, VA-NC	5.30%	58	671,266	8
18	1,328,144	Jacksonville, FL	4.10%	45	444,517	5
19	1,582,264	Nashville-DavidsonMurfreesboro Franklin, TN	3.70%	144	1,187,820	14
20	1,020,200	Tucson, AZ	3.10%	31	251,314	3
21	1,130,293	Salt Lake City, UT	2.70%	20	334,204	4
22	1,705,075	Austin-Round Rock, TX	1.10%	30	62,874	1
23	1,902,834	Las Vegas-Paradise, NV	0.20%	13	157,650	2

Table 4: Metros 1-2 million ranked by average daily traffic on deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Average Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	1,839,700	San Jose-Sunnyvale-Santa Clara, CA	18.70%	189	5,906,551	68
2	1,600,642	Providence-New Bedford-Fall River, RI-MA	18.60%	212	3,933,150	46
3	1,258,577	Louisville/Jefferson County, KY-IN	8.40%	163	2,875,341	33
4	1,238,187	Richmond, VA	9.10%	175	2,257,134	26
5	1,743,658	Indianapolis-Carmel, IN	10.90%	346	2,069,074	24
6	1,227,278	Oklahoma City, OK	19.80%	685	1,857,956	22
7	1,801,848	Columbus, OH	11.10%	323	1,736,553	20
8	1,559,667	Milwaukee-Waukesha-West Allis, WI	8.80%	128	1,498,923	17
9	1,304,926	Memphis, TN-MS-AR	9.90%	247	1,320,211	15
10	1,131,070	Birmingham-Hoover, AL	9.70%	227	1,284,706	15
11	1,582,264	Nashville-DavidsonMurfreesboro Franklin, TN	3.70%	144	1,187,820	14
12	1,035,566	Rochester, NY	12.00%	142	1,171,304	14
13	1,195,998	Hartford-West Hartford-East Hart- ford, CT	7.90%	108	1,168,144	14
14	1,745,524	Charlotte-Gastonia-Concord, NC-SC	12.10%	217	1,060,518	12
15	1,189,981	New Orleans-Metairie-Kenner, LA	6.50%	81	769,701	9
16	1,674,498	Virginia Beach-Norfolk-Newport News, VA-NC	5.30%	58	671,266	8
17	1,125,827	Raleigh-Cary, NC	9.70%	105	670,610	8
18	1,123,804	Buffalo-Niagara Falls, NY	8.60%	99	591,016	7
19	1,328,144	Jacksonville, FL	4.10%	45	444,517	5
20	1,130,293	Salt Lake City, UT	2.70%	20	334,204	4
21	1,020,200	Tucson, AZ	3.10%	31	251,314	3
22	1,902,834	Las Vegas-Paradise, NV	0.20%	13	157,650	2
23	1,705,075	Austin-Round Rock, TX	1.10%	30	62,874	1

Table 5: Metros over 2 million ranked by percent of deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Avg. Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	2,354,957	Pittsburgh, PA	30.40%	1133	4,944,931	57
2	4,317,853	San Francisco-Oakland-Fremont, CA	20.90%	380	15,600,871	181
3	5,968,252	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	20.00%	907	9,355,193	108
4	2,127,355	SacramentoArden-ArcadeRoseville,	15.40%	211	5,135,871	59
5	4,143,113	Riverside-San Bernardino-Ontario, CA	12.20%	296	5,020,110	58
6	2,067,585	Kansas City, MO-KS	12.10%	617	2,041,581	24
7	4,588,680	Boston-Cambridge-Quincy, MA-NH	11.70%	308	7,872,648	91
8	4,403,437	Detroit-Warren-Livonia, MI	11.50%	286	4,212,716	49
9	2,091,286	Cleveland-Elyria-Mentor, OH	11.40%	213	2,453,811	28
10	19,069,796	New York-Northern New Jersey-Long Island, NY-NJ-PA	9.80%	778	17,505,467	203
11	9,580,567	Chicago-Naperville-Joliet, IL-IN-WI	9.40%	481	6,148,678	71
12	2,828,990	St. Louis, MO-IL	8.80%	390	2,423,876	28
13	12,874,797	Los Angeles-Long Beach-Santa Ana, CA	8.30%	386	34,174,712	396
14	2,690,886	Baltimore-Towson, MD	7.20%	167	3,004,324	35
15	2,171,896	Cincinnati-Middletown, OH-KY-IN	7.00%	219	1,397,319	16
16	2,552,195	Denver-Aurora, CO	6.60%	145	3,809,511	44
17	5,475,213	Atlanta-Sandy Springs-Marietta, GA	6.50%	266	1,196,282	14
18	3,269,814	Minneapolis-St. Paul-Bloomington, MN-WI	5.90%	154	1,821,920	21
19	5,476,241	Washington-Arlington-Alexandria, DC- VA-MD-WV	5.70%	215	3,611,401	42
20	3,053,793	San Diego-Carlsbad-San Marcos, CA	5.50%	79	3,481,176	40
21	2,241,841	Portland-Vancouver-Beaverton, OR-WA	5.00%	81	894,827	10
22	3,407,848	Seattle-Tacoma-Bellevue, WA	4.80%	99	1,354,153	16
23	5,867,489	Houston-Sugar Land-Baytown, TX	2.70%	166	688,744	8
24	5,547,051	Miami-Fort Lauderdale-Pompano Beach, FL	2.50%	54	600,252	7
25	6,447,615	Dallas-Fort Worth-Arlington, TX	2.20%	193	1,716,729	20

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Avg. Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
26	4,364,094	Phoenix-Mesa-Scottsdale, AZ	1.10%	31	434,142	5
27	2,747,272	Tampa-St. Petersburg-Clearwater, FL	1.10%	15	206,494	2
28	2,072,128	San Antonio, TX	0.60%	20	43,080	0
29	2,082,421	Orlando-Kissimmee, FL	0.60%	7	5,265	0

Table 6: Metros over 2 million ranked by average daily traffic on deficient bridges

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Avg. Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
1	12,874,797	Los Angeles-Long Beach-Santa Ana, CA	8.30%	386	34,174,712	396
2	19,069,796	New York-Northern New Jersey-Long Island, NY-NJ-PA	9.80%	778	17,505,467	203
3	4,317,853	San Francisco-Oakland-Fremont, CA	20.90%	380	15,600,871	181
4	5,968,252	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	20.00%	907	9,355,193	108
5	4,588,680	Boston-Cambridge-Quincy, MA-NH	11.70%	308	7,872,648	91
6	9,580,567	Chicago-Naperville-Joliet, IL-IN-WI	9.40%	481	6,148,678	71
7	2,127,355	SacramentoArden-ArcadeRoseville, CA	15.40%	211	5,135,871	59
8	4,143,113	Riverside-San Bernardino-Ontario, CA	12.20%	296	5,020,110	58
9	2,354,957	Pittsburgh, PA	30.40%	1133	4,944,931	57
10	4,403,437	Detroit-Warren-Livonia, MI	11.50%	286	4,212,716	49
11	2,552,195	Denver-Aurora, CO	6.60%	145	3,809,511	44
12	5,476,241	Washington-Arlington-Alexandria, DC-VA-MD-WV	5.70%	215	3,611,401	42
13	3,053,793	San Diego-Carlsbad-San Marcos, CA	5.50%	79	3,481,176	40
14	2,690,886	Baltimore-Towson, MD	7.20%	167	3,004,324	35
15	2,091,286	Cleveland-Elyria-Mentor, OH	11.40%	213	2,453,811	28

Rank	Metro Population 2009	Metro Area Name	Percent Deficient	Total Deficient Bridges	Avg. Daily Traffic on Deficient Bridges	Drivers crossing deficient bridge every second
16	2,828,990	St. Louis, MO-IL	8.80%	390	2,423,876	28
17	2,067,585	Kansas City, MO-KS	12.10%	617	2,041,581	24
18	3,269,814	Minneapolis-St. Paul-Bloomington, MN-WI	5.90%	154	1,821,920	21
19	6,447,615	Dallas-Fort Worth-Arlington, TX	2.20%	193	1,716,729	20
20	2,171,896	Cincinnati-Middletown, OH-KY-IN	7.00%	219	1,397,319	16
21	3,407,848	Seattle-Tacoma-Bellevue, WA	4.80%	99	1,354,153	16
22	5,475,213	Atlanta-Sandy Springs-Marietta, GA	6.50%	266	1,196,282	14
23	2,241,841	Portland-Vancouver-Beaverton, OR-WA	5.00%	81	894,827	10
24	5,867,489	Houston-Sugar Land-Baytown, TX	2.70%	166	688,744	8
25	5,547,051	Miami-Fort Lauderdale-Pompano Beach, FL	2.50%	54	600,252	7
26	4,364,094	Phoenix-Mesa-Scottsdale, AZ	1.10%	31	434,142	5
27	2,747,272	Tampa-St. Petersburg-Clearwater, FL	1.10%	15	206,494	2
28	2,072,128	San Antonio, TX	0.60%	20	43,080	0
29	2,082,421	Orlando-Kissimmee, FL	0.60%	7	5,265	0