



Potholes and Politics

How Congress Can Fix Your Roads

SURFACE
TRANSPORTATION
POLICY
PROJECT



Acknowledgments

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STPP (www.transact.org) is a nonprofit coalition of roughly 175 groups devoted to ensuring that transportation policy and investments help conserve energy, protect environmental and aesthetic quality, strengthen the economy, promote social equity, and make communities more livable.

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Executive Summary

Urban and suburban highways account for less than three percent of road miles in metropolitan areas, yet they carry more than one third of all vehicle miles traveled in our nation's cities and suburbs. As Congress tackles reauthorization of the nation's transportation law, the 1991 Intermodal Surface Transportation and Efficiency Act (ISTEA), these interstates, freeways, and expressways — the vital core of the country's road network — are crumbling. The main reason is that each year state Departments of Transportation (DOTs) divert billions of dollars available for road repair to the construction of new highways, typically on the suburban fringe.

Since the enactment of ISTEA in 1991, money available for highway repair that was instead spent on new highway construction in major metro areas alone could have resurfaced almost 5,000 miles of existing urban highway — repairing every mile of urban highway currently in poor or mediocre condition. Because fixing a highway in poor condition can cost ten times more than routine maintenance of roads in fair or better condi-

tion, diverting repair money to new construction further increases long-term road repair costs. It also increases maintenance costs — to the tune of billions of dollars each year — for drivers whose cars are battered by failing roads.

Findings

Our analysis of federal Department of Transportation (U.S. DOT) records on spending and road conditions reveals that:

- **Well over half (58 percent) of the nation's urban highways are in fair to poor condition. More than one quarter (26 percent) are in poor or mediocre condition, and by definition, are in need of repair immediately, or in the near future (Table 1).** One out of every 15 miles traveled each year by the average American driver are on urban highways in poor or mediocre condition. This is the equivalent of a trip from New York City to St. Louis, Missouri, (about 950 miles) on pothole-plagued highways in urgent need of repair. (Roads in poor or me-

Each year state Departments of Transportation (DOTs) divert billions of dollars available for road repair to the construction of new highways, typically on the suburban fringe.

Since the enactment of ISTEA in 1991, money available for highway repair that was instead spent on new highway construction in major metro areas alone could have resurfaced almost 5,000 miles of existing urban highway.

Table 1. More than one fourth of the nation’s urban highways are in poor or mediocre condition.

State	Percent of Urban Highways In Poor or Mediocre Condition	Percent of Urban Highways In Fair Condition	Total Percent of Highways Not in Good Condition
Iowa	56%	29%	85%
Illinois	47%	34%	81%
Florida	47%	21%	68%
Oklahoma	45%	40%	85%
Arkansas	44%	29%	73%
New Mexico	42%	27%	69%
North Carolina	42%	31%	74%
Kentucky	42%	32%	74%
Colorado	39%	41%	80%
Mississippi	38%	38%	76%
Oregon	37%	49%	86%
New York	37%	36%	72%
New Jersey	36%	38%	74%
Pennsylvania	34%	45%	80%
West Virginia	34%	28%	62%
Washington	32%	57%	89%
Virginia	31%	49%	80%
California	29%	44%	74%
Indiana	29%	35%	63%
Tennessee	28%	32%	61%
Michigan	26%	34%	61%
Missouri	24%	56%	81%
Wisconsin	23%	53%	77%
Rhode Island	21%	50%	71%
Massachusetts	16%	41%	57%
Maryland	16%	35%	51%
Minnesota	15%	33%	48%
South Carolina	13%	22%	35%
Kansas	12%	50%	63%
Utah	12%	25%	37%
Nevada	10%	33%	44%
Texas	10%	8%	17%
Ohio	9%	31%	40%
Connecticut	8%	4%	12%
Louisiana	6%	12%	18%
Arizona	5%	29%	34%
Alabama	1%	5%	5%
Georgia	0%	9%	9%
United States	26%	32%	58%

Source: EWG, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

diocre condition are in need of repair immediately, or in the near future. But even roads currently rated in fair condition “will need repair in the near future” according to the definitions used by the Federal Highway Administration.)

- **Drivers spend four times more (\$4.8 billion per year) repairing the damage to their cars caused by crumbling urban highways than state highway departments spend each year (\$1.2 billion per year) fixing these same roads.** In fourteen states, auto damage from decaying urban highways costs drivers more than \$100 million per year in repair costs. In 31 of 38 states (those with significant urban highway mileage), drivers spend more each year repairing auto damage (shocks, suspension, tires and fuel) from poorly maintained urban highways than state transportation departments spent fixing these same roads (Table 2).
- **Since the passage of ISTEA in 1991, more than half of the highway money available for repairs, and spent in metropolitan areas, has been diverted by state DOTs to pay for the construction of new highways (\$6.1 billion out of \$11.9 billion from Fiscal Years**

Table 2. Crumbling urban highways cost American drivers over \$4.8 billion per year.

State	Annual Cost to Drivers Due to Urban Highways In Poor or Mediocre Condition	Annual Spending By State DOTs on Urban Highway Repair
Alabama	\$2,928,582	\$10,618,784
Arizona	\$20,536,062	\$20,957,569
Arkansas	\$44,755,997	\$1,649,178
California	\$1,195,921,361	\$186,218,580
Colorado	\$105,856,377	\$17,585,335
Connecticut	\$29,110,729	\$39,534,895
Florida	\$212,173,520	\$22,795,695
Georgia	\$9,481,469	\$32,348,286
Illinois	\$244,962,358	\$59,081,409
Indiana	\$82,509,687	\$33,351,698
Iowa	\$22,660,583	\$13,546,465
Kansas	\$24,194,340	\$10,830,137
Kentucky	\$76,292,874	\$22,635,623
Louisiana	\$12,254,273	\$8,577,506
Maryland	\$100,223,452	\$26,785,425
Massachusetts	\$99,618,916	\$42,396,936
Michigan	\$145,157,091	\$29,502,782
Minnesota	\$52,479,341	\$19,987,444
Mississippi	\$21,151,024	\$1,717,220
Missouri	\$128,782,200	\$37,621,668
Nevada	\$9,900,523	\$10,305,241
New Jersey	\$207,281,509	\$33,011,719
New Mexico	\$17,658,759	\$4,612,534
New York	\$484,154,699	\$60,384,943
North Carolina	\$141,973,057	\$14,016,638
Ohio	\$97,117,224	\$107,222,330
Oklahoma	\$93,552,692	\$9,360,852
Oregon	\$51,155,758	\$7,027,886
Pennsylvania	\$206,675,334	\$75,432,580
Rhode Island	\$21,562,153	\$10,224,756
South Carolina	\$14,345,202	\$1,318,407
Tennessee	\$80,457,135	\$10,044,069
Texas	\$179,674,796	\$90,718,701
Utah	\$14,580,190	\$11,672,726
Virginia	\$164,978,780	\$9,726,580
Washington	\$184,374,613	\$16,156,336
West Virginia	\$13,383,384	\$8,631,070
Wisconsin	\$60,119,100	\$11,735,186
United States	\$4,767,373,888	\$1,129,345,188

Source: EWG, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

*In order to ensure adequate sample sizes, states with less than 100 miles of urban highway were excluded from this analysis.

ISTEA does not require that existing highways be maintained in good condition before repair funds can be diverted to new construction.

1992-96). ISTEA can be credited for dedicating some funds to road and bridge repair, and emphasizing maintenance of the existing system as a matter of national policy. But the 1991 law also allowed state DOTs to spend federal funds available for road repairs on other projects. Using the discretion allowed in ISTEA, state DOTs have diverted billions of dollars away from the urban and suburban highway repair towards construction of new highways, typically on the far flung edges of existing metropolitan areas.

- **In 15 states, more than one third of all urban highway miles are in poor to mediocre condition and therefore in need of repair immediately, or in the near future (Table 1).** States with the highest percentage of urban highway miles in poor or mediocre condition are Iowa, Illinois, Florida, Oklahoma, and Arkansas. (To ensure that a significant number of highways were sampled at the state level, this analysis was limited to states with more than 100 miles of urban highways.) Some states are spending a significant percentage of the highway funds available for repair on maintenance projects. Others have a huge disparity between the need to repair urban highways and spending to address this need.

- **The states with the highest “Pothole Index”, those spending the least on urban highway repair per mile of urban highway in poor or mediocre condition, were Arkansas, Mississippi, Virginia, North Carolina and South Carolina (Table 3).** These states have a significant number of urban highway miles in poor or mediocre condition, yet DOTs are not devoting the necessary resources to fix the problem.
- **In 27 large metropolitan areas, more than one third of all highways are in poor to mediocre condition and in immediate need of repair.** The large metropolitan areas with the highest percentage of highways in the worst condition are Tampa-St. Petersburg, Florida, Louisville, Kentucky, Chicago, Illinois, Oklahoma City, Oklahoma, San Diego, California and Greensboro-Winston Salem-High Point, North Carolina.
- **The metropolitan areas ranking highest on the “pothole index,” where states are spending the least per mile of urban highway in poor or mediocre condition are Norfolk, Virginia; Charlotte-Gastonia, North Carolina; Orlando, Florida; and Richmond, Virginia (Table**

Table 3. Arkansas, Mississippi, and Virginia rank highest on the pothole index.

State	Urban Highway Mileage In Poor Or Mediocre Cond.	Total Urban Repair Spending (1992-1996)	Annual Urban Repair Spending Per Highway Mile In Poor or Mediocre Condition	Rank on Pothole Index
Arkansas	108	\$8,245,892	\$15,275	1
Mississippi	64	\$8,586,098	\$26,883	2
Virginia	196	\$48,632,901	\$49,625	3
South Carolina	26	\$6,592,033	\$50,248	4
North Carolina	256	\$70,083,190	\$54,747	5
Oklahoma	154	\$46,804,262	\$60,983	6
Tennessee	124	\$50,220,345	\$80,714	7
Florida	281	\$113,978,473	\$81,199	8
Washington	185	\$80,781,681	\$87,471	9
Oregon	74	\$35,139,429	\$95,429	10

Source: EWG, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

*In order to ensure adequate sample sizes, states with less than 100 miles of urban highway were excluded from this analysis.

4). In these metropolitan areas, state DOTs are not spending the resources necessary to repair crumbling urban infrastructure.

Congress Is Rewriting The Nation's Transportation Law

The passage of ISTEA in 1991 was a watershed in transportation policy in the United States. ISTEA has helped sustain a slow but steady improvement in the condition of the nation's urban highways. However, our findings indicate that road maintenance is a continuing, expensive problem, and that ISTEA must be strengthened to prevent state DOTs from diverting precious road repair dollars to new highway construction.

Although ISTEA emphasizes the maintenance of roads and

bridges as an important national need, it does not actually require state DOTs to spend an adequate amount of money on road repair. Minimum spending requirements for repairs exist, but beyond this minimum level decisions about which projects to fund are left up to the states. Nor does ISTEA require that existing highways be maintained in good condition before repair funds can be diverted to new construction. Since 1991, state DOTs have diverted billions of dollars of taxpayer funds available for highway repair to new road construction projects. This costs drivers billions per year in auto maintenance expenses and increases future road repair costs by as much as tenfold.

New road construction often gets priority over maintenance projects, because of ribbon-cutting pressure from politicians and

Table 4. The Norfolk, Charlotte, and Orlando metro areas rank highest on the pothole index.

Metropolitan Area	Urban Highway Mileage In Poor Or Mediocre Condition	Total State DOT Spending on Urban Highway Repair in Metro Area (1992-1996)	Average Annual Repair Spending Per Mile of Urban Highway In Poor or Mediocre Condition	Rank on Pothole Index
Norfolk--Virginia Beach--Newport News, VA	81	\$0	No Repair Spending	1
Charlotte--Gastonia--Rock Hill, NC--SC	34	\$410,293	\$2,399	2
Orlando, FL	26	\$911,555	\$6,889	3
Richmond--Petersburg, VA	66	\$6,844,507	\$20,875	4
Fort Lauderdale--Hollywood--Pompano Beach, FL	10	\$1,159,042	\$22,128	5
Memphis, TN--AR--MS	32	\$6,143,214	\$38,669	6
Albany--Schenectady--Troy, NY	47	\$9,272,219	\$39,306	7
Tampa--St. Petersburg--Clearwater, FL	75	\$15,703,914	\$42,077	8
West Palm Beach--Boca Raton--Delray Beach, FL	36	\$7,612,243	\$42,161	9
Seattle, WA	86	\$26,321,164	\$61,553	10

Source: EWG, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

ISTEA must be strengthened to prevent state DOTs from diverting precious road repair dollars to new highway construction.

increased profits for highway contractors. As North Carolina Senator Lauch Faircloth, former director for the North Carolina DOT, explained at a Congressional hearing in 1995: “the total pressure is on new roads...and new highway-building, not on the maintenance of the system that we have.”

Recommendations

Instead of weakening ISTEA, Congress should strengthen it. To ensure that the nation’s highways are properly maintained and that state DOTs do not increase future road and automobile repair costs by diverting highway maintenance money to new construction projects, an amended ISTEA should:

- **Require states to certify that they have adequate funds available to maintain a new road or highway over its useful life before allowing federal highway**

funds to be spent on its construction. The Federal Transit Act requires agencies proposing new transit projects to show the financial capacity to maintain new facilities over the life of the projects, and to commit to funding future maintenance needs. There is currently no similar requirement for new highways built with federal money, and it shows.

- **Require states to certify that at least 90% of existing urban and suburban highways are in good condition before allowing new construction.** Drivers consistently indicate that their top priority is improving the condition of existing roads. A reauthorized ISTEA must first ensure that states are adequately maintaining the roads that are currently in use.

- **Keep the existing system preservation funding programs—the Interstate Maintenance and Bridge funding categories—and increase funding for these programs by thirty percent.** A number of DOT studies indicate that more resources are needed in order to ensure adequate maintenance of our urban and suburban highways. Under ISTEA, states have made small improvements, but have not dedicated adequate funds to maintaining roads. New legislation must ensure that adequate money is available, and that it is used effectively.
- **Establish a national goal for improving the condition of our Interstate Highway system, and provide incentives to states to meet these goals.** States with more than one-half of their Interstate system in less than fair condition should

be required to dedicate a portion of their flexible National Highway System funds to interstate maintenance. Conversely, states which have done a good job protecting the condition of the Interstate system should be rewarded with bonus funding.

- **Strengthen programs that reduce the demands for new roads and ensure that they will be adequately maintained.** A new Land Use and Transportation pilot program could fund states and metropolitan areas that wish to attempt innovative programs to link transportation and land use through transit or pedestrian-oriented development, state or local programs for collaborative land use and transportation planning and “main street” programs. These can reduce the demand for new roads by reducing sprawl.

As North Carolina Senator Lauch Faircloth, former director for the North Carolina DOT, explained at a Congressional hearing in 1995: “the total pressure is on new roads...and new highway-building, not on the maintenance of the system that we have.”

The Diversion of Road Repair Funds

“I spent a good bit of time with the North Carolina Department of Transportation, and ran it for 4 years. It was so long ago, I still keep calling it the Federal Bureau of Public Roads, but I see something that the Federal Highway Administration has failed to address. You have no requirement that this money be used to maintain roads. That’s totally at the discretion of the State. Well, having watched highway departments for a pretty good while, I can tell you that the total pressure is on new roads . . . and new highway-building, not on the maintenance of the system that we have, and particularly the Interstate system. It truly is an Interstate system, and we have allowed it to deteriorate. . . I think it’s up to the Federal Highway Administration to set some sort of State and national policy that money be used to maintain this system on some sort of a nationwide level before we go into building new highway systems. We built this as an interstate system, but the pressure on the highway commissioners, the Governors, and even the local highway administrators is to build new roads. That’s always more impressive: a new bypass, ‘circle the circle’, ‘loop the loop’, build another one. I think it’s time we get back to bringing all of it up to a standard, and before we let any State build a new road they should be required to bring the current interstate system up to present-day standards.”

Statement of Senator Lauch Faircloth (R-North Carolina), Environment and Public Works Committee Hearing, U.S. Senate, February 23, 1995.

Drivers agree that their top priority for use of federal gas taxes is fixing the cracked and crumbling roads and bridges that they drive on every day. In response, the landmark 1991 Intermodal Surface Transportation and Efficiency Act (ISTEA),

dedicated about \$5.5 billion per year (out of \$20 billion per year for all federal-aid highways) to interstate maintenance and bridge repair, an increase of almost 25 percent from the highway laws that were in effect prior to 1991. Unfortunately, ISTEA did not go

Before we let any State build a new road they should be required to bring the current interstate system up to present-day standards.

Senator Lauch Faircloth (R-North Carolina)

Over 5,550 miles of urban highway were found to be in poor to mediocre condition in 1995.

far enough. State departments of transportation (DOTs) are still allowed to spend this flexible money on other projects, even if there is a pressing need for road repairs. Using this discretion in ISTEA, state DOTs have diverted billions of dollars away from the urban and suburban highways most in need of repair, instead using it for construction of new highways, typically on the suburban fringe.

There are 21,285 miles of urban and suburban highways in the United States, and American drivers drive more than 480 trillion miles on these roads each year — an average of more than 3,650 miles per year per driver. These aging highways handle more traffic than anticipated, and heavier and bigger trucks than

projected, and are wearing out faster than expected. Twenty-six percent of urban and suburban highways — over 5,550 miles of highway — were found to be in poor to mediocre condition in 1995. This means that more than one in four miles of urban highway are in need of immediate or imminent repair. In 1993, the Federal Highway Administration estimated that it would require \$88.2 billion over 20 years to bring metropolitan highways and associated bridges up to smooth and safe status. This would require an investment of \$4.4 billion per year. Since the passage of ISTEA in 1991, state DOTs have spent just \$1.2 billion per year on repair of the nation's urban highway miles. In fact, since 1991, states have diverted the majority of ISTEA

FACTS ABOUT URBAN INTERSTATES, FREEWAYS AND EXPRESSWAYS

There are nearly four million miles of streets, roads, and highways in the United States. The Interstate highway system consists of 45,744 miles of roadway, and carries over 23% of all vehicle miles traveled. The urban highway system consists of over 21,000 miles of road. Freeways and expressways are non-interstate highways that have limited access, meaning they are usually entered and exited with on and off-ramps; other roads intersecting with freeways and expressways usually run above or below them, and there are no traffic lights.

The highways described in this report - known as urban interstates, freeways and

expressways (generically referred to as urban highways) run through both urban and suburban areas as well as all towns with a population greater than 50,000. These roadways carry more than 33% of all vehicle miles traveled within metropolitan areas.

These highways are also unique because they are almost always controlled by state, not local, governments. State Departments of Transportation receive federal funds to maintain these urban and suburban highways. It is thus almost always the responsibility of the states, not local governments, to repair these important roadways.

money available for highway repair to construction of new metropolitan area highways, typically on the suburban fringe.

States divert money from repair to new construction largely in response to pressure from developers and highway contractors, and political pressure for ribbon-cutting projects. In the Charlotte, North Carolina metropolitan area, where 33% of the regions urban and suburban highways are in poor or mediocre condition, the state Department of Transportation (DOT) is using funds that could be spent on repair to construct a controversial new \$23 billion “outer loop” around the far edges of the metropolitan area. The Indiana Department of Transportation — in a state where 29% of urban highway miles are in poor or mediocre condition — is backing a \$1 billion proposal to build a 140 mile extension of I-69 from Indianapolis to Evansville that is part of a much larger “Mid-Continent Highway.” Other new “beltways,” “loops” and “connectors” are being planned around Washington, DC, Atlanta, Houston, Denver, Pittsburgh, Charlottesville, Virginia, and Grand Rapids, Michigan, to name just a few.

Building a new road costs far more per mile than repairing an existing one. Proper road maintenance can be labor-intensive, but at most there are only a few different types of disciplines and companies that can get involved — old pavement is torn up, and

VOTERS' PRIORITY: FIX IT FIRST

The driving (and voting) public sees fixing the roads they drive on every day as a much higher priority than building new roads. In a recent poll conducted by Lake Research, voters overwhelmingly chose “fixing roads and bridges” (49%) as a priority for their local community. “Incentives for carpooling and ridesharing” came in second (25%), followed by improving local public transportation (22%). Tied for fourth place were “building new highways” (17%) and “building more sidewalks and bicycle trails” (17%).

new pavement laid down. Building brand new roads, or even widening a two lane road to a four lane highway, involves a much greater expense — and a much larger profit for those who get in on the action. Besides the costly purchase of new right-of-way, there’s a myriad of expenses associated with planning, design, engineering, landscaping, building bridges and culverts, earth removal, mitigation etc. New roads in metropolitan areas — where houses as well as landscape often have to be moved or torn down — have been estimated to cost as much as \$100 million a mile (California Assembly Office of Research 1993). In contrast, FHWA estimates that it costs approximately 1% of this — \$1.26 million for one mile of pavement reconstruction on urban highways (FHWA 1993b).

As this report goes to press, Congress is rewriting the Intermodal Surface Transportation Efficiency Act (known as ISTEA), the law that establishes

the nation's transportation policy and provides over \$150 billion for highways, mass transit, and other transportation options. Our findings indicate that ISTEA must be strengthened in order to prevent further deterioration and improve the condition of the nation's ur-

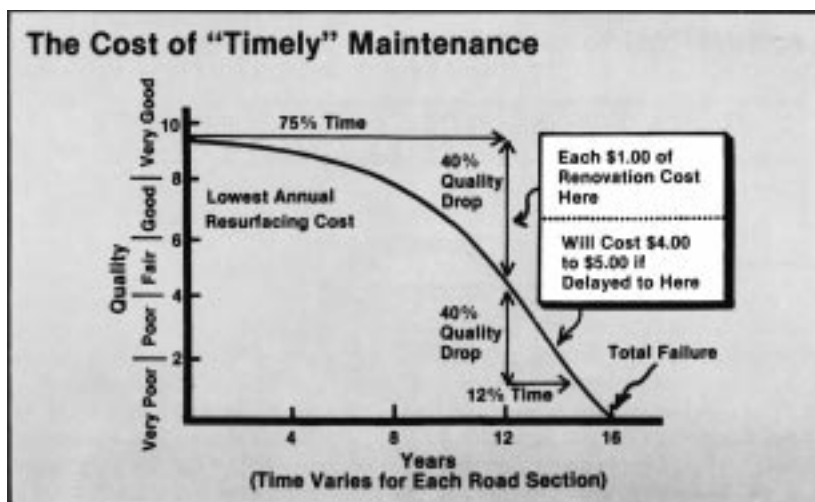
ban and suburban highways. Federal funds have largely paid for the construction of our Interstates and many of our other freeways. Now, ISTEA must ensure that these same federal dollars are used to maintain our national highways in safe and adequate condition.

THE COST OF WAITING: HIGHER PRICES FOR DEFERRED MAINTENANCE

Just as the negligent motorist who doesn't take care of a small problem with their car engine could soon have a massive repair bill on their hands, postponing regular maintenance of roads and freeways carries with it a similar exponential increase in cost. A study by the American Public Works Association concluded that typical pavement deteriorates 40 percent in quality in the first 75 percent of its life (12 years). In the next 12 percent of its life cycle (2-3 years), pavement condition can deteriorate another 40 percent. The cost difference between undertaking routine maintenance before this rapid deterioration in quality is dramatic. APWA estimates that a dollar's worth of repairs during the initial 40% decline in pavement quality will cost

between \$4.00 and \$5.00 if deferred (see chart).

In the 1980s, the Federal Highway Administration estimated the cost of routine maintenance of pavement in good condition at about 8 cents per square foot whereas the cost of rehabilitating failed pavement was closer to 80 cents per square foot. As Mike Sheflin, Transportation Commissioner for Ottawa-Carleton, Canada, put it, "Those who carry out low-cost rejuvenation and resurfacing before rapid deterioration begins extend the pavement life for a fraction of the cost to those who just 'wait a couple of years.' Ask why they waited and the universal answer is, 'to save funds.'"



Roads are Crumbling Because States Are Misspending Federal Transportation Dollars

In this report, we analyzed states' use of existing flexible highway funding for road repair — federal highway dollars that are not presently restricted to road construction, clean air projects or non-motorized forms of transportation¹ — and found that many states, even where urban and suburban highways are in poor shape, are failing to invest sufficient federal funds to keep them from further deterioration. The analysis is restricted to urban highways — interstates, freeways and expressways in the nation's urban and suburban areas — because they carry nearly a third of all miles driven in metropolitan areas and are funded primarily by federal dollars. In addition, in order to ensure a significant sample size at the state level, we excluded all states with less than 100 miles of urban highways from all rankings².

Repair of urban highways is almost always under the authority of state departments of transportation, who spend a combination of federal and state funds on these projects. All analyses of highway spending and highway condition are based on data

reported to the U.S. Department of Transportation by state authorities.

States and metropolitan areas are ranked to determine how much states spend on highway repair in comparison to the need, as indicated by the repair spending per mile of highway in need of repair immediately or in the near future. This is referred to as the "Pothole Index". States with a high Pothole Index are neglecting basic maintenance, even as they often divert repair funds to building new roads instead. States spending more money to fix roads in need of repair have a low score on the Pothole Index.

Any driver can attest that driving on pot-hole filled roads is expensive. Cracked and bumpy roads increase maintenance costs and tire wear, cause cars to wear out sooner, and reduce fuel efficiency. Drivers pay both for road repair and for the damage that roads in disrepair cause to their cars. In our analysis, using U.S. DOT cost models, we estimated the costs of rough roads in terms of increased wear and tear, repair expenses and decreased fuel economy.

Urban highways carry nearly a third of all miles driven in metropolitan areas and are funded primarily by federal dollars.

Table 5. More than one fourth of the nation's urban highways are in poor or mediocre condition.

State	Percent of Urban Highways In Poor or Mediocre Condition	Percent of Urban Highways In Fair Condition	Total Percent of Highways Not in Good Condition
Iowa	56%	29%	85%
Illinois	47%	34%	81%
Florida	47%	21%	68%
Oklahoma	45%	40%	85%
Arkansas	44%	29%	73%
New Mexico	42%	27%	69%
North Carolina	42%	31%	74%
Kentucky	42%	32%	74%
Colorado	39%	41%	80%
Mississippi	38%	38%	76%
Oregon	37%	49%	86%
New York	37%	36%	72%
New Jersey	36%	38%	74%
Pennsylvania	34%	45%	80%
West Virginia	34%	28%	62%
Washington	32%	57%	89%
Virginia	31%	49%	80%
California	29%	44%	74%
Indiana	29%	35%	63%
Tennessee	28%	32%	61%
Michigan	26%	34%	61%
Missouri	24%	56%	81%
Wisconsin	23%	53%	77%
Rhode Island	21%	50%	71%
Massachusetts	16%	41%	57%
Maryland	16%	35%	51%
Minnesota	15%	33%	48%
South Carolina	13%	22%	35%
Kansas	12%	50%	63%
Utah	12%	25%	37%
Nevada	10%	33%	44%
Texas	10%	8%	17%
Ohio	9%	31%	40%
Connecticut	8%	4%	12%
Louisiana	6%	12%	18%
Arizona	5%	29%	34%
Alabama	1%	5%	5%
Georgia	0%	9%	9%
United States	26%	32%	58%

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

*In order to ensure adequate sample sizes, states with less than 100 miles of urban highway were excluded from this analysis.

Table 6. States are spending more on construction of new urban and suburban highways than they are fixing existing highways in urban and suburban areas.

State	Spending on Repair of Urban Highways	Spending on New Urban Highways	Percentage of Spending on Urban Highway Repair
South Carolina	\$6,592,033	\$84,006,676	7%
Virginia	\$48,632,901	\$320,765,246	13%
Arkansas	\$8,245,892	\$35,882,024	19%
Mississippi	\$8,586,098	\$30,711,365	22%
North Carolina	\$70,083,190	\$237,047,269	23%
Nevada	\$51,526,205	\$145,986,667	26%
Washington	\$80,781,681	\$204,208,772	28%
Georgia	\$161,741,432	\$328,119,663	33%
Oregon	\$35,139,429	\$68,741,887	34%
Florida	\$113,978,473	\$212,171,263	35%
New Mexico	\$23,062,668	\$41,976,940	35%
Kansas	\$54,150,686	\$97,795,409	36%
Tennessee	\$50,220,345	\$86,217,809	37%
Louisiana	\$42,887,529	\$67,079,725	39%
Arizona	\$104,787,845	\$146,248,168	42%
California	\$931,092,901	\$1,208,611,156	44%
Maryland	\$133,927,125	\$164,769,632	45%
Texas	\$453,593,507	\$557,450,514	45%
Connecticut	\$197,674,476	\$241,366,170	45%
Alabama	\$53,093,918	\$53,422,547	50%
Massachusetts	\$211,984,678	\$184,882,310	53%
Colorado	\$87,926,674	\$71,445,475	55%
Pennsylvania	\$377,162,899	\$302,263,459	56%
West Virginia	\$43,155,349	\$33,323,349	56%
New Jersey	\$165,058,595	\$120,788,010	58%
Missouri	\$188,108,341	\$135,011,013	58%
Oklahoma	\$46,804,262	\$30,539,898	61%
Iowa	\$67,732,326	\$40,076,256	63%
Ohio	\$536,111,648	\$277,080,058	66%
Michigan	\$147,513,910	\$56,508,620	72%
New York	\$301,924,716	\$106,504,194	74%
Kentucky	\$113,178,115	\$37,817,358	75%
Wisconsin	\$58,675,928	\$14,355,391	80%
Indiana	\$166,758,488	\$34,790,376	83%
Illinois	\$295,407,047	\$56,268,982	84%
Utah	\$58,363,630	\$10,733,625	84%
Rhode Island	\$51,123,780	\$7,970,096	87%
Minnesota	\$99,937,220	\$3,867,721	96%
United States	\$5,843,076,897	\$6,111,841,491	49%

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

*In order to ensure adequate sample sizes, states with less than 100 miles of urban highway were excluded from this analysis.

Table 7. Among large metropolitan areas, Tampa-St. Petersburg-Clearwater has the highest percentage of roads in poor or mediocre condition.

Metropolitan Area	Percentage of Urban Highways In Poor or Mediocre Condition	Percentage of Urban Highways Fair Condition	Percentage of Highways Not in Good Condition
Tampa--St. Petersburg--Clearwater, FL	60%	29%	89%
Louisville, KY--IN	55%	29%	85%
Chicago, IL	55%	32%	87%
Oklahoma City, OK	54%	32%	86%
San Diego, CA	51%	39%	90%
Greensboro--Winston-Salem--High Point, NC	50%	32%	82%
Norfolk--Virginia Beach--Newport News, VA	48%	42%	91%
St. Louis, MO--IL	46%	39%	85%
Los Angeles--Long Beach, CA	46%	32%	78%
Albany--Schenectady--Troy, NY	45%	25%	70%
New York, NY -- Northeastern NJ	43%	39%	81%
Portland--Vancouver, OR--WA	43%	52%	95%
Philadelphia, PA--NJ	42%	39%	81%
Denver, CO	41%	38%	79%
West Palm Beach--Boca Raton--Delray Beach, FL	40%	55%	95%
Buffalo--Niagara Falls, NY	39%	39%	78%
Milwaukee, WI	38%	41%	79%
Nashville, TN	38%	45%	83%
Richmond--Petersburg, VA	37%	45%	82%
Rochester, NY	37%	38%	75%
Memphis, TN--AR--MS	37%	21%	58%
Pittsburgh, PA	36%	38%	75%
Jacksonville, FL	35%	35%	69%
Seattle, WA	34%	59%	94%
Detroit, MI	34%	36%	70%
Indianapolis, IN	34%	38%	72%
Charlotte--Gastonia--Rock Hill, NC--SC	33%	23%	57%
San Jose, CA	30%	61%	91%
San Francisco--Oakland, CA	30%	46%	75%
Boston, MA	29%	52%	80%
Riverside--San Bernardino, CA	28%	47%	75%
Washington, DC--MD--VA	23%	50%	72%
Honolulu, HI	23%	27%	50%
Sacramento, CA	22%	57%	79%
Cincinnati, OH--KY--IN	19%	27%	46%
Miami--Hialeah, FL	18%	60%	78%
Baltimore, MD	18%	32%	50%
Orlando, FL	18%	70%	88%
Salt Lake City--Ogden, UT	18%	38%	56%
Providence--Pawtucket--Fall River, RI--MA	18%	48%	66%
Cleveland, OH	17%	40%	57%
Kansas City, MO--KS	16%	61%	76%
Minneapolis--St. Paul, MN--WI	13%	30%	42%
Houston, TX	11%	9%	20%
Fort Lauderdale--Hollywood--Pompano Beach, FL	10%	55%	65%
Dallas--Fort Worth, TX	8%	8%	16%
San Antonio, TX	8%	2%	10%
Phoenix, AZ	6%	45%	50%
Columbus, OH	6%	26%	31%
Austin, TX	3%	8%	11%
New Orleans, LA	3%	13%	16%
Dayton--Springfield, OH	1%	25%	27%
Birmingham, AL	1%	6%	7%
Newark, NJ	0%	36%	36%
Atlanta, GA	0%	11%	11%

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

Table 8. Crumbling urban freeways cost American drivers over \$4.8 billion annually.

State	% of Urban Highways In Poor, Mediocre or Fair Condition	Annual Mileage Driven on Urban Highways In Poor Or Mediocre Condition.	Annual Cost to Drivers Due to Urban Highways In Poor or Mediocre Condition	Annual Spending By State DOT's on Urban Highway Repair
Alabama	5%	19	\$2,928,582	\$10,618,784
Arizona	34%	136	\$20,536,062	\$20,957,569
Arkansas	73%	1,598	\$44,755,997	\$1,649,178
California	74%	1,936	\$1,195,921,361	\$186,218,580
Colorado	80%	1,621	\$105,856,377	\$17,585,335
Connecticut	12%	363	\$29,110,729	\$39,534,895
Florida	68%	1,329	\$212,173,520	\$22,795,695
Georgia	9%	-	\$9,481,469	\$32,348,286
Illinois	81%	1,259	\$244,962,358	\$59,081,409
Indiana	63%	687	\$82,509,687	\$33,351,698
Iowa	85%	540	\$22,660,583	\$13,546,465
Kansas	63%	403	\$24,194,340	\$10,830,137
Kentucky	74%	1,459	\$76,292,874	\$22,635,623
Louisiana	18%	170	\$12,254,273	\$8,577,506
Maryland	51%	807	\$100,223,452	\$26,785,425
Massachusetts	57%	689	\$99,618,916	\$42,396,936
Michigan	61%	821	\$145,157,091	\$29,502,782
Minnesota	48%	513	\$52,479,341	\$19,987,444
Mississippi	76%	505	\$21,151,024	\$1,717,220
Missouri	81%	1,126	\$128,782,200	\$37,621,668
Nevada	44%	421	\$9,900,523	\$10,305,241
New Jersey	74%	1,269	\$207,281,509	\$33,011,719
New Mexico	69%	784	\$17,658,759	\$4,612,534
New York	72%	1,424	\$484,154,699	\$60,384,943
North Carolina	74%	1,120	\$141,973,057	\$14,016,638
Ohio	40%	278	\$97,117,224	\$107,222,330
Oklahoma	85%	1,511	\$93,552,692	\$9,360,852
Oregon	86%	1,053	\$51,155,758	\$7,027,886
Pennsylvania	80%	860	\$206,675,334	\$75,432,580
Rhode Island	71%	842	\$21,562,153	\$10,224,756
South Carolina	35%	239	\$14,345,202	\$1,318,407
Tennessee	61%	626	\$80,457,135	\$10,044,069
Texas	17%	503	\$179,674,796	\$90,718,701
Utah	37%	597	\$14,580,190	\$11,672,726
Virginia	80%	1,114	\$164,978,780	\$9,726,580
Washington	89%	1,415	\$184,374,613	\$16,156,336
West Virginia	62%	542	\$13,383,384	\$8,631,070
Wisconsin	77%	509	\$60,119,100	\$11,735,186
United States	58%	942	\$4,767,373,888	\$1,129,345,188

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

*In order to ensure adequate sample sizes, states with less than 100 miles of urban highway were excluded from this analysis.

Among our major findings:

- **More than one-fourth (26 percent) of the nation's urban highways are in poor or mediocre condition, requiring repair immediately or in the near future (Table 5).** In an average year, an American driver will drive a distance

equivalent to that between New York City to St. Louis (more than 940 miles) on urban highways in poor or mediocre condition. In addition, another 32 percent of the nation's urban highways are in fair condition, meaning that they will soon require repair. Iowa, Illinois, Florida, and Okla-

Table 9. Drivers in the Los Angeles, San Diego, and Oklahoma City metro areas face the greatest expense because of crumbling urban and suburban highways.

Metropolitan Area	Percent of Highways in Poor Fair, or Mediocre Condition	Average Annual Mileage Driven on Roads in Poor or Mediocre Condition	Total Cost To Drivers Due To Highways In Poor or Mediocre Condition	Average Cost Per Car (Life of the Car)
Los Angeles--Long Beach, CA	78%	4,505	\$676,212,452	\$1,831
San Diego, CA	90%	4,054	\$155,138,866	\$1,491
Oklahoma City, OK	86%	3,408	\$58,229,743	\$1,458
San Jose, CA	90%	2,322	\$89,113,393	\$1,428
Seattle, WA	94%	2,725	\$115,706,868	\$1,408
Louisville, KY--IN	85%	3,714	\$50,222,304	\$1,265
Denver, CO	79%	2,646	\$85,145,142	\$1,259
San Francisco--Oakland, CA	75%	2,569	\$176,104,544	\$1,146
Richmond--Petersburg, VA	82%	2,841	\$40,338,540	\$1,118
St. Louis, MO--IL	85%	3,268	\$111,822,371	\$1,098
Chicago, IL	87%	2,929	\$265,461,227	\$1,050
West Palm Beach--Boca Raton--Delray Beach, FL	95%	2,384	\$36,983,567	\$1,028
Greensboro--Winston-Salem--High Point, NC	82%	2,366	\$39,866,285	\$1,016

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

homa are the states with the highest percentage of urban highways in poor or mediocre condition.

- **Less than half of all money available for urban highway repair was actually spent on repair by state DOTs (Table 6).** Since the passage of ISTEA, state DOTs have spent \$6.1 billion building new urban and suburban highways, and only \$5.8 billion on repair of urban and suburban highways (Table 6). ISTEA can be credited for dedicating some funds to road and bridge repair, and emphasizing maintenance of the existing system as a matter of national policy. But the 1991 law also allowed state DOTs to spend federal funds available for road repairs on other projects. Using this discretion in ISTEA,

state DOTs have diverted billions of dollars away from the urban and suburban highway repair towards construction of new highways, typically on the far flung edges of existing metropolitan areas.

- **In 27 large metropolitan areas, more than one third of all urban highways are fair to poor condition (Table 7).** Tampa-St. Petersburg-Clearwater, Florida, with 60% of its urban highways in poor or mediocre condition, is the large metropolitan area with the highest percentage of roads in poor condition. In five other large metropolitan areas — Louisville, Chicago, Oklahoma City, San Diego, and Greensboro-Winston Salem-High Point, North Carolina — at least 50% of

Table 10. Arkansas, Mississippi, and Virginia rank highest on the Pothole Index.

State	Percentage of Urban Highways In Poor Or Mediocre Cond.	Urban Highway Mileage In Poor Or Mediocre Cond.	Total Urban Repair Spending (1992-1996)	Annual Urban Repair Spending Per Highway Mile In Poor or Mediocre Condition	Rank on Pothole Index
Arkansas	44%	108	\$8,245,892	\$15,275	1
Mississippi	38%	64	\$8,586,098	\$26,883	2
Virginia	31%	196	\$48,632,901	\$49,625	3
South Carolina	13%	26	\$6,592,033	\$50,248	4
North Carolina	42%	256	\$70,083,190	\$54,747	5
Oklahoma	45%	154	\$46,804,262	\$60,983	6
Tennessee	28%	124	\$50,220,345	\$80,714	7
Florida	47%	281	\$113,978,473	\$81,199	8
Washington	32%	185	\$80,781,681	\$87,471	9
Oregon	37%	74	\$35,139,429	\$95,429	10
New Mexico	42%	47	\$23,062,668	\$98,221	11
New York	37%	555	\$301,924,716	\$108,718	12
Colorado	39%	156	\$87,926,674	\$112,861	13
Wisconsin	23%	79	\$58,675,928	\$147,623	14
New Jersey	36%	221	\$165,058,595	\$149,560	15
Michigan	26%	191	\$147,513,910	\$154,622	16
Iowa	56%	82	\$67,732,326	\$165,280	17
Kentucky	42%	132	\$113,178,115	\$171,303	18
Illinois	47%	337	\$295,407,047	\$175,212	19
Pennsylvania	34%	347	\$377,162,899	\$217,562	20
Missouri	24%	154	\$188,108,341	\$244,559	21
West Virginia	34%	34	\$43,155,349	\$251,310	22
Indiana	29%	129	\$166,758,488	\$259,155	23
Kansas	12%	38	\$54,150,686	\$284,034	24
California	29%	608	\$931,092,901	\$306,047	25
Maryland	16%	77	\$133,927,125	\$349,489	26
Minnesota	15%	54	\$99,937,220	\$367,267	27
Texas	10%	215	\$453,593,507	\$422,219	28
Rhode Island	21%	24	\$51,123,780	\$423,734	29
Louisiana	6%	19	\$42,887,529	\$444,358	30
Massachusetts	16%	88	\$211,984,678	\$482,697	31
Utah	12%	21	\$58,363,630	\$561,467	32
Nevada	10%	11	\$51,526,205	\$974,865	33
Ohio	9%	100	\$536,111,648	\$1,068,209	34
Connecticut	8%	33	\$197,674,476	\$1,182,070	35
Arizona	5%	12	\$104,787,845	\$1,743,782	36
Alabama	1%	2	\$53,093,918	\$4,989,521	37
Georgia	0%	-	\$161,741,432	No Mileage In Poor or Med.	38
United States	26%	5,546	\$5,843,076,897	\$210,695	

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

*In order to ensure adequate sample sizes, states with less than 100 miles of urban highway were excluded from this analysis.

the area’s urban highways are in poor or mediocre condition (Table 9).

- Drivers spend four times more every year (\$4.8 billion) repairing damage to their cars caused by crum-

bling urban highways than state DOTs spend each year (\$1.2 billion) to fix these same roads (Table 8).

Driving on roads in poor condition is expensive. Cracked and bumpy roads increase maintenance costs

Table 11. The Norfolk, Charlotte, and Orlando metro areas rank highest on the Pothole Index.

Metropolitan Area	Percentage of Urban Highways In Poor or Mediocre Condition	Urban Highway Mileage In Poor Or Mediocre Condition	Total State DOT Spending on Urban Highway Repair in Metro Area (1992-1996)	Average Annual Repair Spending Per Mile of Urban Highway In Poor or Mediocre Condition	Rank on Pothole Index
Norfolk--Virginia Beach--Newport News, VA	48%	81	\$0	No Repair Spending	1
Charlotte--Gastonia--Rock Hill, NC--SC	33%	34	\$410,293	\$2,399	2
Orlando, FL	18%	26	\$911,555	\$6,889	3
Richmond--Petersburg, VA	37%	66	\$6,844,507	\$20,875	4
Fort Lauderdale--Hollywood--Pompano Beach, FL	10%	10	\$1,159,042	\$22,128	5
Memphis, TN--AR--MS	37%	32	\$6,143,214	\$38,669	6
Albany--Schenectady--Troy, NY	45%	47	\$9,272,219	\$39,306	7
Tampa--St. Petersburg--Clearwater, FL	60%	75	\$15,703,914	\$42,077	8
West Palm Beach--Boca Raton--Delray Beach, FL	40%	36	\$7,612,243	\$42,161	9
Seattle, WA	34%	86	\$26,321,164	\$61,553	10
Greensboro--Winston-Salem--High Point, NC	50%	71	\$23,325,273	\$65,674	11
Philadelphia, PA--NJ	42%	148	\$57,102,997	\$77,317	12
Louisville, KY--IN	55%	76	\$31,428,801	\$82,432	13
Buffalo--Niagara Falls, NY	39%	54	\$23,332,825	\$85,835	14
Portland--Vancouver, OR--WA	43%	58	\$27,204,060	\$94,093	15
San Francisco--Oakland, CA	30%	99	\$46,565,422	\$94,549	16
Nashville, TN	38%	52	\$26,552,710	\$101,963	17
Jacksonville, FL	35%	41	\$21,129,219	\$101,975	18
Oklahoma City, OK	54%	79	\$45,150,646	\$113,851	19
Chicago, IL	55%	260	\$149,912,813	\$115,320	20
Pittsburgh, PA	36%	103	\$64,059,221	\$124,480	21
San Diego, CA	51%	119	\$75,480,543	\$126,525	22
Los Angeles--Long Beach, CA	46%	288	\$200,722,331	\$139,273	23
New York, NY -- Northeastern NJ	43%	488	\$346,627,638	\$142,076	24
Baltimore, MD	18%	49	\$39,153,999	\$160,658	25
Rochester, NY	37%	37	\$30,608,262	\$164,119	26
Denver, CO	41%	84	\$74,828,235	\$178,243	27
Milwaukee, WI	38%	38	\$40,169,405	\$210,377	28
Detroit, MI	34%	95	\$100,557,006	\$211,279	29
Miami--Hialeah, FL	18%	21	\$23,988,935	\$233,696	30
St. Louis, MO--IL	46%	136	\$163,493,630	\$240,299	31
Boston, MA	29%	61	\$74,846,712	\$245,126	32
Kansas City, MO--KS	16%	56	\$70,892,660	\$251,937	33
Salt Lake City--Ogden, UT	18%	21	\$26,679,663	\$254,771	34
Honolulu, HI	23%	15	\$19,446,243	\$257,464	35
Sacramento, CA	22%	23	\$34,415,533	\$298,616	36
Dallas--Fort Worth, TX	8%	46	\$78,019,273	\$337,973	37
Providence--Pawtucket--Fall River, RI--MA	18%	27	\$47,544,271	\$346,558	38
San Jose, CA	30%	38	\$68,218,703	\$358,433	39
Washington, DC--MD--VA	23%	70	\$129,840,224	\$370,834	40
San Antonio, TX	8%	16	\$30,051,839	\$371,171	41
Indianapolis, IN	34%	44	\$90,679,258	\$413,249	42
Minneapolis--St. Paul, MN--WI	13%	38	\$84,198,858	\$444,614	43
Riverside--San Bernardino, CA	28%	39	\$93,423,808	\$476,895	44
Cleveland, OH	17%	39	\$105,871,465	\$540,602	45
Houston, TX	11%	44	\$201,271,317	\$917,142	46
Cincinnati, OH-KY-IN	19%	32	\$198,503,214	\$1,225,912	47
Columbus, OH	6%	8	\$67,700,297	\$1,716,974	48
Phoenix, AZ	6%	7	\$70,173,121	\$2,040,213	49
New Orleans, LA	3%	2	\$23,369,580	\$2,102,526	50
Austin, TX	3%	3	\$52,943,669	\$3,197,081	51
Birmingham, AL	1%	1	\$27,743,630	\$3,759,299	52
Dayton--Springfield, OH	1%	1	\$54,248,536	\$8,820,900	53
Atlanta, GA	0%	-	\$109,529,554	No Roads In Poor or Med. Cond	54

Source: Environmental Working Group, 1997. Road condition data compiled from DOT HPMS database (1995), spending data is for FY 1992-1996, compiled from DOT FMIS database.

and tire wear, cause cars to wear out sooner, and reduce fuel efficiency. Compared to the costs of driving on interstates in good condition, it costs drivers an extra \$34 for every one thousand miles driven on interstates in poor condition. Similarly, it costs drivers an extra \$18 for every one thousand miles driven on roads in mediocre condition, and an extra \$5 for every thousand miles driven on roads in fair condition.

- **Failure to fix urban highways adds nearly \$2,000 in maintenance costs over the life of a car in some metropolitan areas.** A driver in the Los Angeles metro area spends approximately \$1,800 over the life of a car, while drivers in the San Diego, Oklahoma City, and San Jose metropolitan areas spend over \$1400 in additional automobile costs because of highways that are in poor, mediocre, or fair condition (Table 9). Poorly maintained urban highways in California add \$966 in costs over the life of a car in California as a whole, and over \$700 over the life of a car in Washington, Colorado, and New York.
- Arkansas, Mississippi, Virginia, and South Carolina rank highest on the Pothole Index (Table 10). The Pot-

hole Index is based on the amount of money that states are spending, per mile of roadway in imminent need of repair. States spending the most money for repairs have a low Pothole Index, and states that are failing to invest in urban highway maintenance have a high Pothole Index.

- The metropolitan areas that rank highest on the Pothole Index are Norfolk, Virginia; Charlotte-Gastonia, North Carolina; Orlando, Florida, and Richmond, Virginia (Table 11). In these metropolitan areas, state DOTs are failing to make necessary investment to ensure adequate road maintenance.

While the federal spending is often indicative of overall spending, particularly on interstates, in most states federal spending only constitutes 30-35% of all spending on transportation projects. State gas taxes account for 25-30% in most states, and local property taxes, sales taxes and general funds make up the difference.

Thus, some states that appear to be acting responsibly with federal funds may not be acting as responsibly with state funds. For example, in Wisconsin, most of the federal money has been shifted to maintenance while the state spending on new construction has nearly doubled in the last ten years (in real dollars). While the state spending on new

AND THE WINNER IS...

Even as major freeways and Interstate highways reach their life expectancy, as they are starting to do on I-95, which runs the length of the eastern seaboard, new road construction projects continue to win out over preventive road maintenance programs. For example, in Philadelphia in the 1980s as the state highway agency was undertaking major capacity expansion projects on the outer fringes of the city, the downtown Schuylkill Expressway (I-76) had to undergo a major reconstruction after years of neglect, forcing motorists to navigate one lane in each direction. Now, as the rest of I-95 through the City continues

to deteriorate the state is planning a new \$467 million interchange at the Intersection of I-95 and the New Jersey Turnpike. In addition, some politicians are forwarding an idea to double-deck the Schuylkill Expressway.

New Jersey, a state with over a third of its metropolitan freeways in bad condition, recently decided to delay dozens of needed maintenance projects in favor of new road construction and highway widening work (for a complete list of delayed projects visit the Tri-State Transportation Campaign's web site at www.tstc.org).

construction increased by 98% (in real dollars), the state spending on maintenance only increased by 15%. Thus, in Wisconsin, which already has a relatively

high pothole index because of its use of federal funds, officials are dedicating even less of the necessary state funds to highway maintenance.

Notes

¹ We excluded the CMAQ, Enhancements, and Interstate Construction programs from our analysis, which do not provide flexible funds for highway repair.

² States that were excluded from the analysis because they did not have 100 miles of urban highway were Alaska, Delaware, Hawaii, Idaho, Maine, Montana, New Hampshire, Nebraska, North Dakota, South Dakota, Vermont, Wyoming, and Washington, DC.

Fix it First

The passage of ISTEA in 1991 marked a watershed in transportation law in the United States. ISTEA has led to a slow but steady improvement in the condition of the nation's urban highways. Yet our findings clearly indicate that road maintenance is a continuing, expensive problem — over 26% of the nation's urban highways remain in immediate need of repair — and that states are not dedicating adequate funds to the task. If this problem is to be truly solved, ISTEA must be strengthened to prevent state DOTs from diverting precious highway repair dollars to building new roads instead.

ISTEA currently does not require state DOTs to spend an adequate amount of money on road repair, nor does it require that existing roads be maintained in good condition before repair funds can be diverted to new construction. Under ISTEA, state DOTs have diverted billions of dollars of taxpayer funds available for highway repair to new road construction projects. This costs drivers billions of dollars per year in auto maintenance expenses and increases future

road repair costs by as much as tenfold.

As this report goes to press, Congress is in the midst of rewriting ISTEA. Our findings clearly indicate that many states are doing an inadequate job of maintaining urban and suburban highways. In the House, legislation sponsored by Transportation and Infrastructure Committee Chairman Bud Shuster (R-PA) and Ranking Minority Member James Oberstar (D-MN) is scheduled for a committee vote in mid-September. This legislation, while it does not dramatically improve current ISTEA maintenance requirements, will at least provide states with dedicated funding for highway maintenance while at the same time creating a performance bonus program for states that do a good job of system preservation. Legislation to reauthorize ISTEA will soon be introduced in the Senate.

To ensure that the nation's highways are properly maintained and that state DOTs do not increase future road and automobile repair costs by diverting highway maintenance money to new construction projects, an

amended ISTEA should:

- **Require states to certify that they have adequate funds available to maintain a new road or highway over its useful life before allowing federal highway funds to be spent on its construction.** The Federal Transit Act requires agencies proposing new transit projects to show the financial capacity to maintain new facilities over their entire useful life, and to commit to funding future maintenance needs. There is currently no similar requirement for new highways built with federal money.
 - **Require states to certify that at least 90% of their existing urban and suburban highways are in good condition before allowing them to undertake new construction.** Drivers consistently indicate that their top priority is improving the condition of existing roads. A reauthorized ISTEA must first ensure that states are adequately maintaining the roads that are currently in use.
 - **Keep the existing system preservation funding programs—the Interstate Maintenance and Bridge funding categories—and increase funding for these programs by thirty percent.** A number of DOT studies have indicated that more re-
- sources are needed in order to ensure adequate maintenance of our urban and suburban highways. Under ISTEA, states have made small improvements, but have not dedicated adequate funds to maintaining roads. New legislation must ensure that adequate money is available, and that it is used effectively.
- **Establish a national goal for improving the condition of our Interstate Highway system, and provide incentives to states to meet these goals.** States with more than one-half of their Interstate system in less than fair condition should be required to dedicate a portion of their flexible National Highway System funds to interstate maintenance. Conversely, states which have done a good job protecting the condition of the Interstate system should be rewarded with bonus funding.
 - **Strengthen programs which reduce the demands for new roads.** A new Land Use and Transportation pilot program could fund states and metropolitan areas who wish to attempt innovative programs to link transportation and land use through transit or pedestrian-oriented development, state or local programs for collaborative land use and transportation planning and “main street” programs. These can reduce the demand for new roads by reducing sprawl.

NEGLECT OF THE NATION'S BRIDGES

The Interstate highway system alone contains 54,726 bridges, more than 3,000 of which are classified as structurally deficient by the Federal Highway Administration (FHWA). The maintenance of these bridges and its related impact on safety became front page news in the 1980s when an Interstate bridge on I-90 collapsed into Schoharie Creek near Albany, New York, killing 10 people. Unfortunately, the same forces that compel state transportation departments to neglect crumbling roads in favor of laying down new pavement elsewhere are also at work on our nation's bridges.

"Maintenance is the poor stepchild to bridge design," former U.S. Representative and Chair of the House Transportation Committee Norman Mineta told the Albany Union Times in 1995. "It's much more attractive politically to open a brand new bridge than to dedicate a new (bridge) paint job." In the same article, William Pound, executive director of the National

Conference of State Legislatures, explains that while the interstate system was being built "the emphasis was on construction. I think the public now will demand that we fix what we already have."

The 1991 ISTEA law dedicated over \$2 billion per year to its Bridge Repair program. It has helped to at least hold the line on deteriorating bridges — according to FHWA, the number of overall bridges eligible for federal funds that are "structurally deficient" declined from 13% in 1990 to 11% in 1996. Yet the highway lobby as well as many state departments of transportation (DOTs) have waged a strong campaign against ISTEA's Bridge Repair program, declaring it a "burdensome mandate" and urging its elimination. While the House bill to reauthorize ISTEA protects the Bridge Repair program, there is little doubt that the highway lobby will continue its efforts to gut the program as legislation moves through Congress.

Methodology and Data Sources

All analyses in this study were restricted to urban and suburban interstates, freeways, and expressways (referred to throughout the report as urban highways) — the roads that are used by thousands of automobile commuters every day. Repair of these roads is almost always the responsibility of state departments of transportation — the recipients of federal ISTEA funds — not local jurisdictions. State spending of federal transportation dollars was analyzed from Fiscal Year 1992 — the first year that ISTEA was in effect — to the present. Spending data consists of either spending on repairs on urban highways, or spending on new urban highways or new rural highways. Arterials, collectors, and local roads were not included in the analyses because these roads are often the responsibility of local governments, not state departments of transportation. In order to ensure adequate sample size, all state-level analyses were restricted to states with at least 100 miles of urban highway.

Data on highway spending in the United States was obtained from the Financial Management Information System, a database of all highway spending main-

tained by the United States Department of Transportation (USDOT). The database, which contains approximately 427,000 records, was obtained by Environmental Working Group via a Freedom of Information request to U.S. DOT. All projects are coded in the database using 15 different codes to identify highway improvement types (New Construction, Minor Widening, etc.). Using these codes, all highway spending was classified as either spending on new highways, or spending on repair. The following DOT codes were classified as new spending: New Construction, Relocation, Major Widening, and Reconstruction w/ Additional Capacity.

The following were classified as repair and rehabilitation spending: Minor Widening, Restoration and Rehab., Resurfacing, and Reconstruction w/o Additional Capacity. Spending on bridges (which is funded from a separate ISTEA program) was not included in the analysis. In order to ensure that we only analyzed expenditure of flexible funds (funds not restricted to specific activities and projects), We excluded several ISTEA programs which do not provide flexible funds for roadway repair — the

Table 12. Definition of terms.

Verbal Rating	IRI Rating	Description
Poor	>170 (I); > 220 (F,E)	Needs immediate repair to restore serviveability
Mediocre	120-170 (I); 171-220 (F,E)	Needs repair in the near future to preserve usability
Fair	95-119 (I); 95-170 (F,E)	Will likely need repair in the near future, but depends on traffic use
Good	60-94	In decent condition. Will not require repair in the near future.
Very Good	< 60	New or almost new pavement, will not require repair for some time.

I= Interstates, F,E = Freeways and Expressways

Source: FHWA, 1993. Highway Performance Monitoring System Field Manual. Washington, DC.

CMAQ, Enhancements, and Interstate Construction programs.

Data on the conditions of the nation’s roads were obtained from the Highway Performance Monitoring System. This database, which contains over 150,000 records, was also obtained from U.S. DOT via a Freedom of Information request. The database contains a statistical sample of all urban highway miles in the nation. State departments of transportation, responsible for reporting data to the database, assign each mile of highway sampled a numerical ranking — known as either the Present Serviceability Ranking (PSR) or the International Roughness Index (IRI) — indicating the road condition. Until 1995, U.S. DOT assigned a verbal ranking — very good, good, fair, mediocre, or poor — to these roads based upon the objective numerical ranking. In 1995, U.S. DOT

did not assign these rankings. Because of this, EWG and STPP assigned these verbal rankings based upon U.S. DOT standards used until 1995 (Table 12).

If road projects or roads are located in census-defined metropolitan areas, the HPMS and FMIS databases contain codes identifying the area. This allowed us to conduct all analyses at the metro area level as well as the state level.

The cost of driving on bad roads was calculated using models prepared by U.S. DOT and other transportation experts. Driving on pothole-plagued roads increases maintenance costs, tire wear, and depreciation rates, and decreases fuel efficiency. Researchers have estimated the relative costs, per mile, of driving on roads that are in poor, mediocre, fair, and good condition (FHWA 1992;

FHWA 1982; Texas Transportation Institute 1994). Using these models, and estimates of the annual mileage driven on urban highways in less than good condition, we estimated the total cost to drivers at the national,

state, and metropolitan area level. These costs are based only on urban highway driving and do not include costs due to driving on non-highways in less than good condition.

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