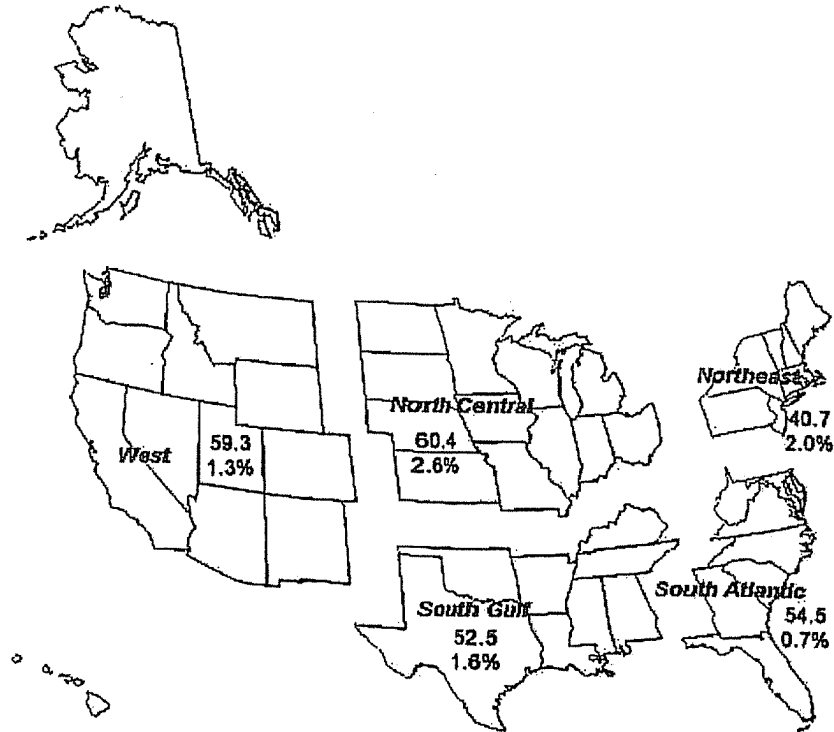


August 2010 Traffic Volume Trends

- Travel on all roads and streets changed by **1.6%** (4.3 billion vehicle miles) for August 2010 as compared with August 2009.
- Travel for the month is estimated to be 267.4 billion vehicle miles.
- Cumulative Travel for 2010 changed by **0.4%** (7.3 billion vehicle miles).
- Cumulative estimate for the year is 2,006.7 billion vehicle miles of travel.

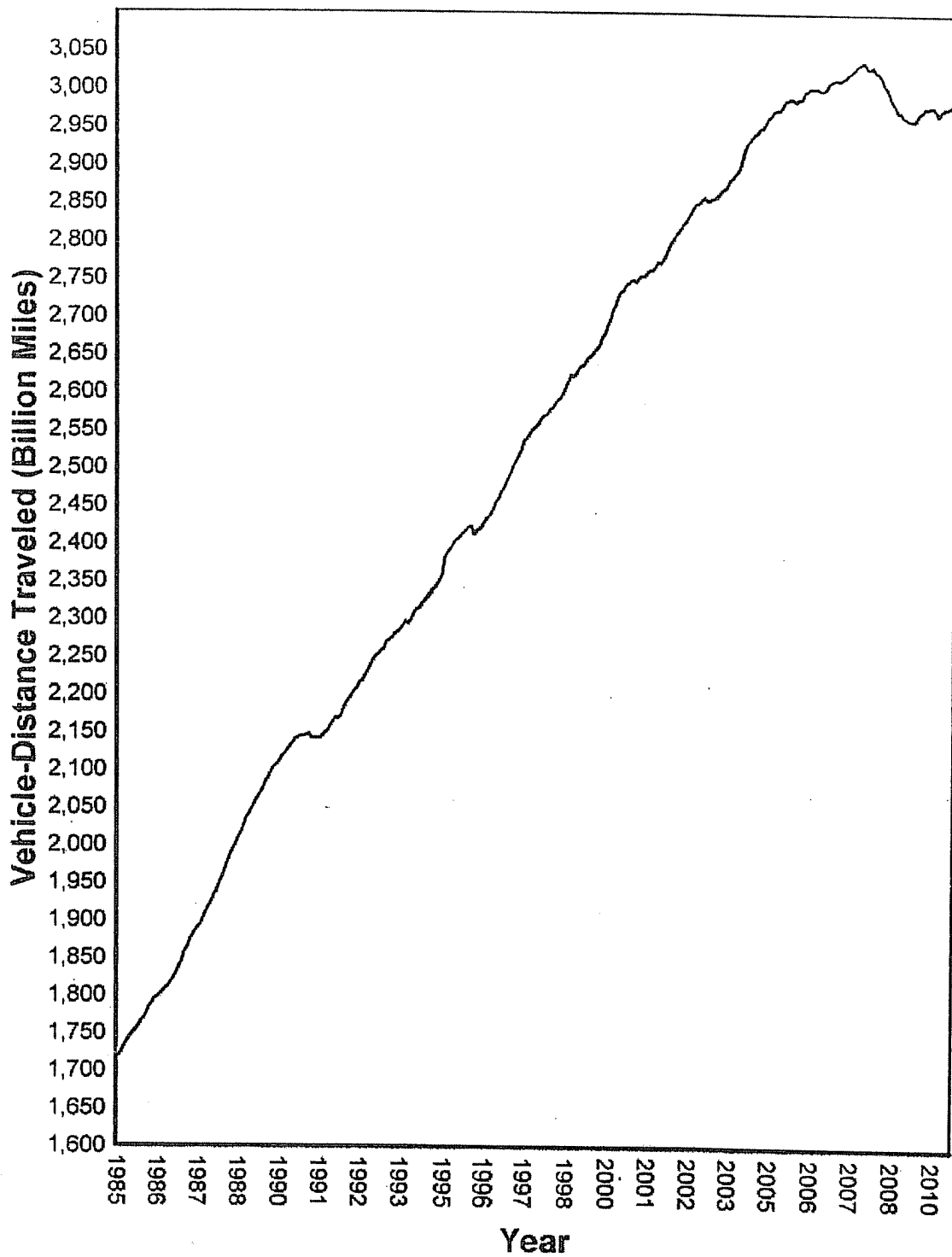


Estimated Vehicle-Miles of Travel by Region - August 2010 - (in Billions)
Change in Traffic as compared to same month last year.

Region	Total Travel	Percentage Change
North-East	40.7	2.0
South-Atlantic	54.5	0.7
North-Central	60.4	2.6
South-Gulf	52.5	1.6
West	59.3	1.3

Note:

- All data for this month are preliminary. Revised values for the previous month are shown in Tables 1 and 2.
- All vehicle-miles of travel computed with 2008 Table VM-2 as a base.
- Compiled with data on hand as of October 12, 2010.



FHWA Home | Policy Information



United States Department of Transportation - Federal Highway Administration

State Construction Employment (seasonally adjusted), 9/09-9/10

	<u>September</u> <u>2009</u>	<u>July</u> <u>2010</u>	<u>August</u> <u>2010</u>	<u>September</u> <u>2010</u>	<u>1-mo. %</u> <u>Change</u>	<u>1-mo Job</u> <u>Loss/Gain</u>	<u>12-mo. %</u> <u>Change</u>	<u>Total Job</u> <u>Loss/Gain</u>	<u>12-mo. % change</u> <u>Rank</u>
Alabama	87,200	87,600	87,600	85,500	-2.4%	-2,100	-1.9%	-1,700	20
Alaska	15,800	16,500	16,100	15,800	-1.9%	-300	0.0%	0	11
Arizona	117,200	113,000	113,500	112,800	-0.6%	-700	-3.8%	-4,400	29
Arkansas	51,400	53,300	53,400	53,200	-0.4%	-200	3.5%	1,800	5
California	578,700	546,900	541,300	528,000	-2.5%	-13,300	-8.8%	-50,700	44
Colorado	123,500	109,600	109,300	109,300	0.0%	0	-11.5%	-14,200	48
Connecticut	52,900	51,000	50,500	50,000	-1.0%	-500	-5.5%	-2,900	36
Delaware*	18,900	18,000	18,200	18,600	2.2%	400	-1.6%	-300	19
District of Columbia*	11,000	10,900	11,300	11,500	1.8%	200	4.5%	500	4
Florida	372,200	361,700	359,800	361,500	0.5%	1,700	-2.9%	-10,700	26
Georgia	156,800	150,700	151,500	153,000	1.0%	1,500	-2.4%	-3,800	23
Hawaii*	29,600	28,500	28,500	29,900	4.9%	1,400	1.0%	300	9
Idaho	32,400	29,100	28,400	28,400	0.0%	0	-12.3%	-4,000	49
Illinois	212,200	185,400	198,000	198,700	0.4%	700	-6.4%	-13,500	37
Indiana	115,200	115,600	114,300	114,700	0.3%	400	-0.4%	-500	12
Iowa	63,000	62,300	62,800	62,200	-1.0%	-600	-1.3%	-800	16
Kansas	56,100	62,100	62,700	61,100	-2.6%	-1,600	8.9%	5,000	2
Kentucky	71,400	66,200	64,600	64,400	-0.3%	-200	-9.8%	-7,000	47
Louisiana	127,900	127,800	129,100	127,100	-1.5%	-2,000	-0.6%	-800	13
Maine	24,400	23,000	23,100	23,500	1.7%	400	-3.7%	-900	28
Maryland*	148,800	149,700	151,100	150,800	-0.2%	-300	1.3%	2,000	8
Massachusetts	106,000	108,800	109,700	108,100	-1.5%	-1,600	2.0%	2,100	7
Michigan	118,800	116,300	114,800	113,300	-1.3%	-1,500	-4.6%	-5,500	32
Minnesota	91,100	84,400	82,000	85,100	3.8%	3,100	-6.6%	-6,000	38
Mississippi	49,500	46,200	46,800	46,200	-1.3%	-600	-6.7%	-3,300	40
Missouri	114,500	102,400	104,600	103,600	-1.0%	-1,000	-9.5%	-10,900	45
Montana	23,500	21,500	21,400	21,700	1.4%	300	-7.7%	-1,800	42
Nebraska*	47,300	47,300	45,700	46,400	1.5%	700	-1.9%	-900	20
Nevada	73,400	60,000	60,500	59,200	-2.1%	-1,300	-19.3%	-14,200	51
New Hampshire	22,500	23,200	23,900	24,300	1.7%	400	8.0%	1,800	3
New Jersey	133,400	124,700	124,400	123,300	-0.9%	-1,100	-7.6%	-10,100	41
New Mexico	46,300	44,900	43,900	43,900	0.0%	0	-5.2%	-2,400	35
New York	317,400	314,000	314,800	309,000	-1.8%	-5,800	-2.6%	-8,400	24
North Carolina	182,500	171,300	172,800	170,400	-1.4%	-2,400	-6.6%	-12,100	38
North Dakota	21,900	21,200	21,400	21,000	-1.9%	-400	-4.1%	-900	30
Ohio	173,100	174,500	174,000	169,600	-2.5%	-4,400	-2.0%	-3,500	22
Oklahoma	66,100	70,200	72,500	72,600	0.1%	100	9.8%	6,500	1
Oregon	72,200	68,900	66,900	65,900	-1.5%	-1,000	-8.7%	-6,300	43
Pennsylvania	217,600	218,900	218,300	215,800	-1.1%	-2,500	-0.8%	-1,800	15
Rhode Island	16,500	16,200	17,100	16,600	-2.9%	-500	0.6%	100	10
South Carolina	83,900	79,400	80,100	79,600	-0.6%	-500	-5.1%	-4,300	34
South Dakota*	21,500	20,600	20,800	21,200	1.9%	400	-1.4%	-300	17
Tennessee*	106,000	101,900	102,400	101,600	-0.8%	-800	-4.2%	-4,400	31
Texas	578,700	568,800	570,200	563,200	-1.2%	-7,000	-2.7%	-15,500	25
Utah	68,400	68,200	67,500	67,900	0.6%	400	-0.7%	-500	14
Vermont	13,500	11,600	11,600	11,600	0.0%	0	-14.1%	-1,900	50
Virginia	184,400	178,600	179,100	178,000	-0.6%	-1,100	-3.5%	-6,400	27
Washington	152,100	136,200	136,600	137,700	0.8%	1,100	-9.5%	-14,400	45
West Virginia	32,200	34,200	33,800	33,000	-2.4%	-800	2.5%	800	6
Wisconsin	98,400	99,700	99,400	97,000	-2.4%	-2,400	-1.4%	-1,400	17
Wyoming	23,200	21,300	22,200	22,100	-0.5%	-100	-4.7%	-1,100	33

*Mining and logging is combined with construction.

Source: Associated General Contractors of America, www.agc.org, from Bureau of Labor Statistics (BLS), U.S. Department of Labor, www.bls.gov/sae, 10/22/10. BLS posts data either for construction alone or construction, mining and logging combined.

THE TEXAS TRIBUNE

Heavy Loads, Some from Wind and Gas, Damage Texas Roads

by Kate Galbraith
October 19, 2010 | 3



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"Now you can see how bad this is," says Stacey Young, a Lubbock-based pavement expert at the Texas Department of Transportation. She is driving along Farm to Market Road 97 in Floyd County, which has been so heavily repaired that one lane is a gray, black and sandy-colored patchwork. The cause: convoys of trucks lugging materials to a nearby wind farm that was built several years ago.

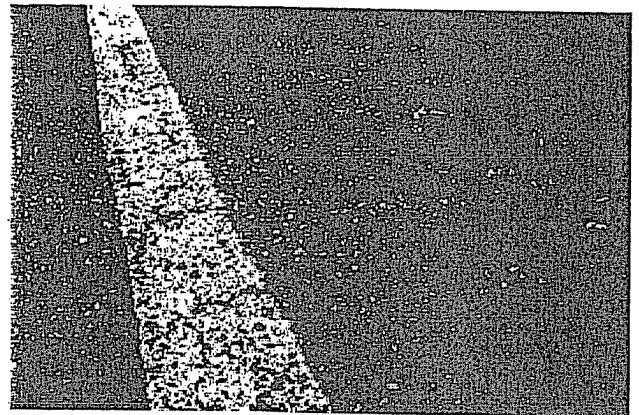


photo illustration by: Todd Wiseman

Heavy truck traffic, some of it related to the energy industry, has increased sharply across the state in recent years, and it's taken a heavy toll on rural roadways. The number of super-heavy vehicle permits — granted by TxDOT to trucks over 254,300 pounds — rose from 208 in fiscal year 2005 to 1,525 in fiscal year 2009, due to both increased economic activity and improved processes for identifying heavy loads. In February, a record 1.7 million pound load moved through Texas, a generator bound for a coal plant in Riesel from the Port of Houston.

To TxDOT's chagrin, trucking companies and the industries they serve rarely shoulder the cost of fixing the damage, which can run in the hundreds of thousands of dollars for a single state road.

"We've seen a lot of our roadways have base [problems], edges drop off, rutting, bridge hits, shoulder damage," says Jodi Hodges, a public information officer in TxDOT's Fort Worth district, which has seen heavy roadway damage from trucks associated with natural gas drilling in the Barnett Shale. In 2007, when natural gas prices were high and drilling was booming, the agency spent more than \$23 million in road rehabilitation funds in Johnson County alone — more than one-third of the available funds — plus an additional \$11 million from other sources.

Trucking advocates point out that even if they do not cover the costs of damage to state roads, they sometimes help pay for the upkeep of city and county roads. In addition, the heaviest loads move on trucks with extra axles, to distribute the weight. "It is not a question of damage being done to roads because of weight," says John Esparza, president and chief executive of the Texas Motor Transportation Association. "It is about the dispersment of weight [and having] the proper vehicle."

TxDOT officials also say the sheer number of trucks, even if they are not super-heavy loads, makes an impact.

In West Texas, officials have noticed increased damage to the roadways over the past five years as the wind industry has flourished. (Texas now has the most wind turbines in the country by far.) In the Abilene-Sweetwater area — the heart of the wind rush — repairing mostly wind-related damage to FM-89 in Taylor County will cost TxDOT more than \$179,000 this fiscal year.

Young says that often the most damage is caused not by the wind turbines themselves but by other materials, such as the concrete used to build the foundation of the turbine. Consider the case of FM-97, the heavily patched road leading up to a wind farm called Whirlwind: The company that owns the farm, RES Americas, built a spur road leading to the farm site, and hauling an estimated 50,000 tons of base material to build that spur took a toll on the larger road, which was constructed long before such farms were in the picture. Indeed, the damage to FM-97 is almost entirely in the eastbound lane leading to the farm; the other lane — traveled by the trucks after they dumped their loads — is nearly unscathed.

Compared to the previous year, truck traffic along FM-97 quadrupled, to 122 trucks a day, when the Whirlwind wind farm was built, according to TxDOT. Few other vehicles drive along the road.

Young says RES Americas was helpful in communicating the truck movements. But she argues that wind companies should help pay for the damage they cause on state roads. Right now, super-heavy loads pay a maximum permit fee of \$970 for a one-way trip in Texas, regardless of the number of miles traveled. For trucks going long distances that

works out to less than neighboring Louisiana, where loads just shy of 257,000 pounds are charged \$1,420 if they drive over 200 miles. The Texas fees are not commensurate, TxDOT officials say, with the damage the big loads cause to roadways. To raise Texas' permit fees to adequate levels would require legislation, Young says. "Somehow I don't think that's going to happen," she says.

Some wind turbine parts move by rail these days, but many still move by truck. Greg Wortham, executive director of the Texas Wind Energy Clearinghouse, dismisses the concerns about roadway damage, noting the large number of jobs created by the wind industry. He likens the situation to that of transmission lines, whose costs are spread to ratepayers across the state. "Our society needs certain things. People have got to get over this," he says. If taxpayers want economic activity, then "it's reasonable to expect damage from moving heavy objects, whether [they are] military tanks or wind turbine parts or ethanol facilities or nuclear reactor parts or oil drilling rigs."

Andrew Fowler, executive vice president of construction for RES Americas, operator of the wind farm off FM-97, said in a statement: "RES Americas is attentive to the alteration and erosion of roads caused by an increase in heavy truck loads in the counties where we construct. RES Americas works with these counties to mitigate effects and address concerns that exist."

But many TxDOT officials complain that truckers often try to avoid paying their permit fees, such as they are. Trucks over 80,000 pounds — the weight at which all trucks, regardless of how many axles they have, need an "overweight permit" — sometimes try to avoid weigh stations by traveling at night, according to Hodges. In some parts of the Fort Worth district, the sheriff's department and the Department of Public Safety have provided additional enforcement manpower, and "about 50 percent of the trucks they pull over are overweight," she says.

The roadway impacts of both the wind industry and the gas industry ebb and flow with the industries' fortunes, transportation officials say. Right now, owing partly to the insufficient number of transmission lines out of West Texas, the wind boom has slowed somewhat. The gas drilling business, too, is down from its height a few years ago, as natural gas prices have fallen sharply.

If prices go back up, Hodges says, the drilling frenzy — and associated damage to roadways — will resume.

Transportation Facts:

Texas



American Road & Transportation Builders Association

Scope & Condition of Roads & Bridges

According to the Federal Highway Administration (FHWA), Texas has 306,404 miles of roadway. Of the state's 79,060 miles of roadway eligible for federal aid, 12.3% are rated "not acceptable" and need major repairs or replacement. This compares to 11.5% of roads in 2007.

Texas also has 51,158 bridges. FHWA reports 18.4% of the state's bridges are either "structurally deficient" (1,752 bridges) or "functionally obsolete" (7,682 bridges). It will cost an estimated \$8.9 billion to make needed bridge repairs on 14,005 structures in the state.

Road Safety

The National Highway Traffic Safety Administration reports there were 3,006 fatal motor vehicle crashes, resulting in 3,363 fatalities in Texas during 2008. Of these, 55.6% of fatalities occurred on rural roads, 41.5% on the National Highway System. Motor vehicle crashes are the number one cause of death and also permanently disabling injuries for young Americans under age 21.

Transportation Network Profile	
Highways, Roads & Bridges	
Total Road Mileage	306,404
Rural Interstate	2,058
Urban Interstate	1,176
Number of Bridges	51,158
Airports	
Number of Airports	1,417
Transit & Rail	
Bus Route Miles	13,277
Transit Rail Route Miles	175
Railroad Miles	14,982
Number of Railroads	44
Ports & Waterways	
Miles of inland waterways	830
Total Shipments (1,000 tons)	490,123
Domestic Shipments	66,686
Foreign Shipments	360,216
Intrastate Shipments	63,222
Number of waterway facilities	976

Commuting Patterns

According to the U.S. Census Bureau, the average commute one-way to work in Texas is 24.1 minutes. Getting there, 78.9% drive alone, 1.7% take public transportation; 3.6% work at home.

Economic Impact of Transportation Construction in Texas

Analysis of the latest U.S. Census Bureau data shows the design, construction and maintenance of transportation infrastructure supports the equivalent of 276,228 full-time jobs in Texas. These employees earn a total annual payroll of \$11.1 billion and contribute an estimated \$882.5 million in state and federal payroll tax revenue. This employment includes the equivalent of 137,608 full-time jobs directly involved in transportation infrastructure construction and related activities and 138,620 that are sustained by transportation design and construction industry employee and company spending throughout the region's economy.

Additionally, the existence of more than 6,069,387 full-time jobs in Texas in key industries like tourism, retail sales, agriculture and manufacturing are dependent on the state's transportation infrastructure network. According to the U.S. Census Bureau, there are at least 85,626 firms in Texas that are in some way directly involved in transportation construction related work.

Transportation Makes America Work!

Economic Benefits of Transportation Infrastructure Well Documented

The benefits of highway investment to private sector productivity and economic activity are well documented in the economics literature. There are numerous studies that have found a positive correlation between transportation infrastructure investment and economic development. Although exact impact of the investment has varied among studies, the fact that there is a positive relationship is widely accepted.¹⁴

In addition to the direct employment supported by highway construction activities, as described in this report, there are also direct user benefits, such as time savings and safety improvements, as well as gains in industry productivity.¹⁵

A study by Dr. Alicia Munnell of the Federal Reserve Bank of Boston concluded states that invested more in infrastructure tended to have greater output, more private investment and more employment growth.¹⁶ Her work found that a one percent increase in public capital would raise national output by 0.15 percent¹⁷. She further notes that the major impact of public capital output is from investment in highways and water and sewer systems. Other public capital investments, such as school buildings and hospitals, had virtually no measureable impact on private production.¹⁸ Munnell also concludes that public capital and

¹⁴ Economic studies have found output elasticities ranging from as high as 0.56 (Aschauer 1989) to a low of 0.04 (Garcia-Mila and McGuire 1992). This means that a one percent increase in highway investment would result in between 0.04 to 0.56 percent increase in output. Most of this variation is because studies have a different focus- looking at different types of investment measures and output at either the national, state or county level.

¹⁵ U.S. Department of Transportation, *Productivity and the Highway Network: A Look at the Economic Benefits to Industry from Investment in the Highway Network*.

¹⁶ Munnell, Alicia, *How Does Public Infrastructure Affect Regional Economic Performance*, New England Economic Review, September/October 1990

¹⁷ Munnell's elasticity for private capital is 0.31, so that a one percent increase in private capital would raise national output by 0.31 percent. This is in line with other studies of returns from private capital investment.

¹⁸ Munnell says she is not implying that government-provided education and health services have no effect on productivity, but rather "the stock of buildings ... may not be the best indicator of the quality of education services; teachers' salaries, for example, might be a better measure."

infrastructure investment have a significant positive impact on a state's private employment growth and private sector output.

Additional studies have found that transportation infrastructure investments have an impact on the attractiveness of local communities, which helps determine local economic activity and land values. In general, most studies find that locations close to large transportation infrastructure investment have higher land values.¹⁹

M. Ishaq Nadiri of New York University and the National Bureau of Economic Research and Theofanis P. Mamuneas of New York University find significant cost structure and productivity performance impacts on the U.S. manufacturing industry as a result of highway investment. Their work shows that the rate of return on highway investment can be greater than private investment.

Some major findings include²⁰:

- ❖ Over the period 1950 to 1989, U.S. industries realized production cost savings averaging 18 cents annually for each dollar invested in the road system.
- ❖ Investments in non-local roads yield even higher production cost savings—estimated at 24 cents for each dollar of investment.
- ❖ Although the impact of highway investment on productivity has declined since the early 1970s and the initial construction of the Interstate, evidence suggests that highway infrastructure investments more than pay for themselves in terms of industry cost savings.
- ❖ The highway network's contribution to economic productivity growth was between 7 and 8 percent over the time period 1980 to 1989.
- ❖ The net social rate of return on investment in the non-local road system during the 1980s was 16 percent, and the rate of return for the entire road network was 10 percent.²¹

¹⁹ A synopsis of these studies are available in the Transportation Research Board's *Expanding Metropolitan Highways: Implications for Air Quality and Energy Use – Special Report 245*, 1995

²⁰ Summary provided by U.S. Department of Transportation, *Productivity and the Highway Network: A Look at the Economic Benefits to Industry from Investment in the Highway Network*, 1996.

²¹ The net social rate of return is an estimate of the benefits to private industries derived from the shared use of public highways.

- ❖ This rate of return was significantly higher than the prevailing rate of return on private capital and the long-term interest rate during this time period.
- ❖ The higher return to highway capital is due to its network feature, since the benefits are shared by all industries.
- ❖ The U.S. transportation construction industry not only provides the infrastructure to keep the nation moving, it also serves as an engine of economic growth and job creation in every state.

Transportation Makes America Work!

The Return on Investment That Keeps Recurring

One of the most attractive benefits of major public investments in transportation infrastructure is they create tangible capital assets that are long-lived. In addition to creating jobs and generating tax revenues throughout the economy during the construction cycle, these investments provide infrastructure improvements that foster and facilitate continuing economic growth over many years beyond the initial investment.

The greatest long-term economic returns can often be found in strategic investments that facilitate business activity. Infrastructure investments aimed at reducing traffic congestion or providing faster point-to-point travel, for example, can increase productivity by reducing travel time.

The U.S. Department of Transportation has identified more than 200 major traffic bottlenecks across the nation. Mitigating or eliminating these bottlenecks would save billions of dollars in lost productivity and motor fuel that would benefit the nation. Such work would also significantly reduce unnecessary motor vehicle emissions.

Investments in multi-modal new capacity for “Critical Commerce Corridors” like “truck only” lanes, intermodal connectors and freight transfer facilities would provide long-term economic benefits for many areas of the United States.

The Federal Highway Administration’s National Bridge Inventory shows 216,513 bridges in America need work, major rehabilitation, widening or replacement at a cost of \$229.3 billion. The imposition of a weight restrictions, closure, or collapse of a single bridge also all have productivity and cost impacts for businesses and the public. Avoiding those costs by preserving existing assets is well worth the investment.

What would an additional investment in transportation infrastructure make possible? Consider the possibilities.

While there is no single answer to the question, “How much does it cost to build a mile of road?” some states, like Florida, have developed cost models to guide planning for their highway construction program. These models provide a “ballpark figure” for various kinds of highway improvements. Here are some examples:

- ❖ Construct a new 2-lane undivided road: approximately \$2-\$3 million per mile in rural areas; \$4-5 million in urban areas;
- ❖ Construct a new 4-lane highway: approximately \$4-\$6 million per mile in rural and suburban areas; \$8-\$10 million per mile in urban areas;
- ❖ Construct a new 6-lane Interstate highway: approximately \$7 million per mile in rural areas; \$12 million or more per mile in urban areas;
- ❖ Mill and resurface a 4-lane road: approximately \$1.25 million per mile; and
- ❖ Expand an Interstate Highway from 4 lanes to 6 lanes: \$4 million per mile.

Transportation Makes America Work!

The Challenge Ahead: A Threat to U.S. Productivity & Competitiveness

There are enormous challenges facing the U.S. transportation infrastructure network that will have a direct impact on U.S. productivity and economic competitiveness in the years to come. These issues include:

- ❖ Without changes to current policy, the revenues raised by all levels of government for capital investment will only be about one-third (\$66.6 billion) of the \$200 billion the U.S. Department of Transportation (USDOT) believes necessary to maintain and improve the nation's highways and transit systems.²²
- ❖ The estimated cumulative gap between federal revenues for transportation and the investment needs of the system are \$400 billion from 2010 to 2015.²³
- ❖ Traffic congestion cost Americans living in the nation's 437 urban areas \$87.2 billion per year in lost time, wasted motor fuel and vehicle wear and tear.²⁴
- ❖ On average, urban commuters experience the equivalent of one work week (40 hours) per year stuck in rush hour traffic. In total, Americans spend 4 billion hours per year stuck in traffic.²⁵
- ❖ From 1980 to 2006, the vehicle miles traveled (VMT) in the U.S. by automobiles increased 97 percent; VMT by trucks increased 106 percent.

²² *Paving Our Way, Report of the National Surface Transportation Infrastructure Financing Commission*, February 2009

²³ *Ibid.*

²⁴ Texas Transportation Institute, *2009 Urban Mobility Report*

²⁵ *Ibid.*

Meanwhile, road capacity, as measured by the number of highway lane miles added to the system grew just 4.4 percent.²⁶

- ❖ Over half of the miles on the federal-aid highway system are in less than good condition and nearly 17 percent need major reconstruction, repair or rehabilitation. Nearly 25 percent of the nation's bridges are structurally deficient or functionally obsolete.²⁷
- ❖ Roughly one-quarter of the nation's bus and rail assets are in marginal or poor condition.²⁸
- ❖ Real highway spending per miles traveled in the U.S. has fallen by nearly 50 percent since the federal Highway Trust Fund was established in 1956.²⁹ Total combined highway and transit spending as a share of GDP has fallen by about 25 percent in the same time period to 1.5 percent of GDP today.³⁰
- ❖ The federal gas tax, which finances highway and transit capital investments and is not adjusted annually for inflation, has lost 33 percent of its purchasing power since last raised in 1993.³¹

²⁶ *Paving Our Way, Report of the National Surface Transportation Infrastructure Financing Commission*, February 2009

²⁷ FHWA, *2008 Conditions & Performance Report* (2006 data), highway repair estimates based on 2008 Highway Statistics pavement ratings, bridge data from 2009 National Bridge Inventory

²⁸ FTA, *Transit State of Good Repair*

²⁹ *Paving Our Way, Report of the National Surface Transportation Infrastructure Financing Commission*, February 2009

³⁰ *Ibid.*

³¹ *Ibid.*

Transportation Makes America Work!

The Economic Impact of Interrupted Service

Measuring Mobility and Access

Our nation's infrastructure is the foundation of U.S. economic growth. The importance of our road, bridge, transit, air and waterway network is even more apparent after access and mobility are compromised by natural disasters, system failures or other disruptions.

It is difficult to measure the long run economic impact of infrastructure disruptions because the U.S. economy is so resilient. Consumers and businesses will find alternative transportation routes and travel means in response to a disruption. However, often in the short term there are significant economic consequences following the unexpected shut down of a bridge or roadway, airport, transit system or port.

Case studies and analysis of some recent events provide an insight into the ripple effect and initial economic cost of a transportation network disruption as users grapple with finding an alternative.

Minnesota I-35 Bridge — \$60 Million Loss in Economic Activity

The collapse of the Minnesota I-35W Bridge over the Mississippi River in 2007 caused substantial loss of life and injury. The tragic accident also cost the Minnesota economy \$60 million in economic activity before the replacement bridge opened in 2008.⁶

Approximately 140,000 vehicles used the I-35W Bridge each day to commute between the north suburban destinations, the University of Minnesota and downtown Minneapolis. The unavailability of the important river crossing into

⁶ Minnesota Department of Employment and Economic Development, *Economic Impacts of the I-35W Bridge Collapse*

the city cost road users alone approximately \$400,000 per day. An estimated 140,000 vehicles, including 5,000 commercial trucks, had to find alternative routes into the city. Overall, the average daily net economic impact was a loss of \$113,000 in the state's economic output.

New York Transit Shutdown Costs City \$1 Billion⁷

New York's subway and buses ground to a halt for two and a half days in December 2005 as a result of a worker strike. The New York City comptroller's office predicted the shutdown would cost the city as much as \$1.6 billion in economic activity if service had been compromised for a full week. As it was, the city lost approximately \$400 million the first day and \$300 million each of the next two days. The loss was largely due to cancellations of economic activity and lost productivity as the city adjusted to alternative means of transportation.

This economic impact was felt even though the city expected the strike and put contingency plans into effect. New Yorkers carpooled, took taxis and used the commuter rails to get to work. Thousands of New Yorkers also walked to their destinations.

West Coast Ports Vital To U.S. Imports and Exports

Many firms were unprepared for the strike that shut down the six largest container ports in the West Coast in 2002 and cost the U.S. economy as much as \$15 billion.⁸ At the time of the labor dispute, it is estimated that these ports handled over half of all foreign origin or destination containers passing through U.S. ports and over 60 percent of the nation's cargo, valued at \$300 billion.

The Boeing company warned that the port disruptions would cost the State of Washington alone as much as \$30 million in tax revenues. Passenger and cargo doors, escape hatches, side panels and airplane crowns for the company's jetliners were stuck on freighters.

⁷ News article from NY1.com, December 21, 2005, *TMU Leaders Refuse to Back Down Despite Threat of Jail Time*

⁸ Entrepreneur, *Are You Prepared For A Devastating Port Strike in 2008?* The original estimate of \$15.6 billion in economic impact was published by Martin Associates after the event. Although some have questioned this figure as being too high, the model used by Martin and Associates was reviewed by the U.S. Federal Reserve Board of Governors, the Bush Administration and the U.S. Council of Economic Advisors.

Although in the long run the 10-day closure did not adversely impact the economy, there was a noticeable effect on trade flows following the initial strike.⁹ Imports through California dropped off nearly 20 percent following the strike, but did rebound later in the year.

Subsequent analysis by the U.S. Congressional Budget Office estimates that a one week shutdown of just the Los Angeles and Long Beach ports would cost between \$65 million and \$150 million per day.¹⁰ The daily cost of a three-year shutdown for those two ports would be higher – between \$125 million to \$200 million per day. That translates into a reduction in real GDP by between 0.35 and 0.55 percent, or \$45 billion to \$70 billion per year. Outlays by consumers and business would fall substantially in this scenario, and employment would be about 1 million jobs lower, on average, during the three-year period.

Multimodal Impacts—Links Between Ports, Bridges & Highways

About 55 percent of the trade from the Los Angeles and Long Beach ports goes through Terminal Island, which is connected to the mainland by three highway bridges and a rail bridge. An analysis by Peter Gordon, James E. Moore II and Harry W. Richardson of the University of Southern California and Qisheng Pan of Texas Southern University, shows that the destruction of all four of those bridges could result in a total economic loss between \$22.5 billion to \$90 billion, depending on the time it would take to rebuild access to the Island.¹¹ The total economic loss would be an estimated \$44.9 billion if the bridges were out of commission for 12 months, followed by \$67.4 billion for an 18-month period and \$89.9 billion if the bridges were inoperable for two years. The authors also estimate it would cost as much as \$12 billion for the total reconstruction of the four bridges. Accelerating the access to all three of the highway bridges would have an economic benefit of \$3.75 billion per month.

⁹ Jon D. Haveman & Howard J. Shatz, *Protecting the Nation's Seaports: Balancing Security and Cost*, 2006

¹⁰ U.S. Congressional Budget Office, *The Economic Costs of Disruptions in Container Shipments*, 2006

¹¹ Jon D. Haveman & Howard J. Shatz, *Protecting the Nation's Seaports: Balancing Security and Cost*, 2006

Airport Shutdowns Have Widespread Impact

The shutdown of airports and grounding of airplanes has significant economic costs. The closing of the Bangkok airport in Thailand for eight days in late 2008 cost the economy \$8.5 billion.¹² Not only did the shutdown strand hundreds of thousands of tourists, but export industries were also impacted. With 80 percent of the global market, the shutdown cost the Thai orchid industry over \$9 million. Tourism arrivals in Thailand were expected to fall by 2.5 million in early 2009, accounting for \$3 billion in lost revenue as a result of the shutdown.

More recently the erupting Iceland volcano that brought flights across Europe to a standstill cost the U.S. economy alone over \$813 million in direct travel spending and \$90 million in tax receipts. Worldwide, the airline industry lost an estimated \$1.7 billion in revenues while over 100,000 flights were canceled in six days.¹³

By comparison, the grounding of all airplanes in the United States for three days after the terrorist attacks of September 11, 2001, cost the airline industry over \$1.4 billion in revenue.

¹² Voice of America News, *Central Bank Says Bangkok Airport Closure Cost Economy \$8 Billion*, January 12, 2009

¹³ ABC News, *Icelandic Volcano Airline Costs Keep Climbing*, April 16, 2010; International Air Travel Association and U.S. Travel Association