

***NEW MEXICO TRANSPORTATION
BY THE NUMBERS:***

Meeting the State's Need for Safe, Smooth and
Efficient Mobility

FEBRUARY 2017



Founded in 1971, TRIP ® of Washington, DC, is a nonprofit organization that researches, evaluates and distributes economic and technical data on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering and construction; labor unions; and organizations concerned with efficient and safe surface transportation

Ten Key Transportation Numbers in New Mexico

\$2.3 billion	Driving on deficient roads costs New Mexico motorists a total of \$2.3 billion annually in the form of additional vehicle operating costs (VOC), congestion-related delays and traffic crashes.
Albuquerque: \$1,822 Las Cruces: \$1,005 Santa Fe: \$1,234	TRIP has calculated the cost to the average motorist in New Mexico's largest urban areas in additional VOC, congestion-related delays and traffic crashes. The average Albuquerque area driver loses \$1,822 annually; each Las Cruces area driver loses \$1,005 and the average Santa Fe area driver loses \$1,234 annually.
351 1,757 1/3	On average, 351 people were killed annually in New Mexico traffic crashes from 2012 to 2016, a total of 1,757 fatalities over the five year period. In 2016 the number of traffic fatalities in New Mexico increased by one-third from 2015, from 298 to 398.
54% 50%	The New Mexico Department of Transportation's (NMDOT) 2017 budget only provides 54 percent of the annual funding required for road and highway maintenance and preservation and 50 percent of the annual funding needed for bridge maintenance, reconstruction and replacement.
25% Statewide 34% Albuquerque 26% Las Cruces 20% Santa Fe	Statewide, 25 percent of New Mexico's major roads are in poor condition. Thirty-four percent of Albuquerque's major roads are in poor condition, while in Las Cruces, 26 percent of major roads are in poor condition, and 20 percent of Santa Fe's major roads are in poor condition.
\$1.3 Billion	NMDOT has a \$1.3 billion funding shortfall for needed transportation projects that would improve road and bridge conditions, ease congestion, improve safety and enhance economic development.
2X 4.2% to 9.8%	At current funding levels the share of state-maintained bridges in poor condition (measured by deck surface) will more than double by 2026, increasing from 4.2 percent in 2017 to 9.8 percent in 2026.
36 hours-Albuquerque 8 hours-Las Cruces 19 hours-Santa Fe	The average driver in the Albuquerque area loses 36 hours to congestion annually, while each driver in the Las Cruces urban area loses eight hours annually, and the average Santa Fe driver loses 19 hours annually.
\$109 Billion	Annually, \$109 billion in goods are shipped to and from sites in New Mexico, mostly by truck.
\$1.00 = \$5.20	The Federal Highway Administration estimates that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs, and reduced emissions as a result of improved traffic flow.

Executive Summary

Nine years after the nation suffered a significant economic downturn, New Mexico's economy continues to rebound. The rate of economic growth in New Mexico, which is greatly impacted by the reliability and condition of the state's transportation system, has a significant impact on quality of life in the Land of Enchantment.

An efficient, safe and well-maintained transportation system provides economic and social benefits by affording individuals access to employment, housing, healthcare, education, goods and services, recreation, entertainment, family, and social activities. It also provides businesses with access to suppliers, markets and employees, all critical to a business' level of productivity and ability to expand. Reduced accessibility and mobility - as a result of traffic congestion, a lack of adequate capacity, or deteriorated roads, highways, bridges and transit facilities - diminishes a region's quality of life by reducing economic productivity and limiting opportunities for economic, health or social transactions and activities.

With an economy based largely on agriculture, natural resource extraction, government services, manufacturing and tourism, the quality of New Mexico's transportation system will play a vital role in the state's level of economic growth and quality of life.

In this report, TRIP looks at the top transportation issues faced in New Mexico as the state addresses its need to modernize and maintain its system of roads, highways, bridges and transit systems.

COST TO NEW MEXICO MOTORISTS OF DEFICIENT ROADS

An inadequate transportation system costs New Mexico motorists a total of \$2.3 billion every year in the form of additional vehicle operating costs (VOC), congestion-related delays and traffic crashes.

- TRIP estimates that New Mexico roadways that lack some desirable safety features, have inadequate capacity to meet travel demands or have poor pavement conditions cost the state's residents approximately \$2.3 billion annually in the form of additional vehicle operating costs (including accelerated vehicle depreciation, additional repair costs, and increased fuel consumption and tire wear), the cost of lost time and wasted fuel due to traffic congestion, and the financial cost of traffic crashes.
- TRIP has calculated the average cost to drivers in the state's largest urban areas as a result of driving on roads that are deteriorated, congested and lack some desirable safety features. The chart below details the annual statewide cost and costs to the average drivers in the Albuquerque, Las Cruces and Santa Fe urban areas.

Location	VOC	Congestion	Safety	TOTAL
Albuquerque	\$703	\$886	\$233	\$1,822
Las Cruces	\$582	\$220	\$203	\$1,005
Santa Fe	\$551	\$437	\$246	\$1,234
New Mexico	\$840 Million	\$745 Million	\$705 Million	\$2.3 Billion

POPULATION AND ECONOMIC GROWTH IN NEW MEXICO

Population and economic growth in New Mexico have resulted in increased demands on the state’s major roads and highways, leading to increased wear and tear on the transportation system.

- New Mexico’s population reached approximately 2.1 million residents in 2015, a 15 percent increase since 2000.
- New Mexico had 1,467,782 licensed drivers in 2015.
- Vehicle miles traveled (VMT) in New Mexico increased by 16 percent from 2000 to 2015 –from 22.8 billion VMT in 2000 to 26.3 billion VMT in 2015.
- Vehicle miles of travel in New Mexico for the first nine months of 2016 were 1.9 percent higher than the first nine months of 2015.
- By 2030, vehicle travel in New Mexico is projected to increase by another 20 percent.
- From 2000 to 2015, New Mexico’s gross domestic product, a measure of the state’s economic output, increased by 24 percent, when adjusted for inflation. U.S. GDP increased 27 percent during this time.

NEW MEXICO ROAD CONDITIONS

A lack of adequate state and local funding has resulted in one quarter of major roads and highways in New Mexico having pavement surfaces in poor condition, providing a rough ride and costing motorists in the form of additional vehicle operating costs.

- Statewide, 25 percent of New Mexico’s major locally and state-maintained roads and highways are in poor condition, while 34 percent are in mediocre or fair condition, and 41 percent are in good condition.
- Roads rated in poor condition may show signs of deterioration, including rutting, cracks and potholes. In some cases, poor roads can be resurfaced, but often are too deteriorated and must be reconstructed.
- The chart below details pavement conditions on major urban roads in the Albuquerque, Las Cruces and Santa Fe urban areas.

Location	Poor	Mediocre	Fair	Good
Albuquerque	34%	25%	12%	28%
Las Cruces	26%	24%	14%	36%
Santa Fe	20%	32%	20%	28%

- Driving on rough roads costs New Mexico motorists a total of \$840 million annually in extra vehicle operating costs. The average driver in the Albuquerque area loses \$703 annually, while the average Las Cruces area driver loses \$582 each year as a result of driving on deteriorated roads, and the average Santa Fe area driver loses \$551. Costs include accelerated vehicle depreciation, additional repair costs, and increased fuel consumption and tire wear.

NEW MEXICO BRIDGE CONDITIONS

Six percent of locally and state-maintained bridges in New Mexico show significant deterioration. This includes all bridges that are 20 feet or more in length.

- Six percent of New Mexico’s bridges are structurally deficient. A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Structurally deficient bridges are often posted for lower weight or closed to traffic, restricting or redirecting large vehicles, including commercial trucks and emergency services vehicles.
- Based on current funding levels, the share of state-maintained bridges in poor condition (measured by deck surface) will more than double by 2026, increasing from 4.2 percent in 2017 to 9.8 percent in 2026.
- The chart below details the total number of bridges and the share of structurally deficient bridges in the Albuquerque, Las Cruces and Santa Fe urban areas.

Location	Structurally Deficient	Total Bridges
Albuquerque	1%	489
Las Cruces	8%	233
Santa Fe	5%	247

HIGHWAY SAFETY AND FATALITY RATES IN NEW MEXICO

Improving safety features on New Mexico’s roads and highways would likely result in a decrease in the state’s traffic fatalities and serious crashes. It is estimated that roadway features are likely a contributing factor in approximately one-third of all fatal and serious traffic crashes.

- Between 2012 and 2016 a total of 1,757 people were killed in traffic crashes in New Mexico, an average of 351 fatalities per year.
- In 2016, traffic fatalities in New Mexico increased by approximately one-third from the previous year, increasing from 298 in 2015 to 398 in 2016.
- The chart below details the average number of fatalities from 2013 to 2015 in the Albuquerque, Las Cruces and Santa Fe areas, as well as the average annual cost per driver as a result of traffic crashes.

Location	Avg. Fatalities	Safety Cost
Albuquerque	62	\$233
Las Cruces	17	\$203
Santa Fe	14	\$246

- Traffic crashes in New Mexico imposed a total of \$2.1 billion in economic costs in 2014. TRIP estimates that traffic crashes in which roadway features were likely a contributing factor imposed \$705 million in economic costs in 2014.
- Roadway features that impact safety include the number of lanes, lane widths, lighting, lane markings, rumble strips, shoulders, guard rails, other shielding devices, median barriers and intersection design. The cost of serious crashes includes lost productivity, lost earnings, medical costs and emergency services.
- Several factors are associated with vehicle crashes that result in fatalities, including driver behavior, vehicle characteristics and roadway features. TRIP estimates that roadway features are likely a contributing factor in approximately one-third of fatal traffic crashes.
- Where appropriate, highway improvements can reduce traffic fatalities and crashes while improving traffic flow to help relieve congestion. Such improvements include removing or shielding obstacles; adding or improving medians; improved lighting; adding rumble strips, wider lanes, wider and paved shoulders; upgrading roads from two lanes to four lanes; and better road markings and traffic signals.
- Investments in rural traffic safety have been found to result in significant reductions in serious traffic crashes. A 2012 report by the [Texas Transportation Institute](#) (TTI) found that improvements completed recently by the Texas Department of Transportation that widened lanes, improved shoulders and made other safety improvements on 1,159 miles of rural state roadways resulted in 133 fewer fatalities on these roads in the first three years after the improvements were completed (as compared to the three years prior). TTI estimates that the improvements on these roads are likely to save 880 lives over 20 years.

NEW MEXICO TRAFFIC CONGESTION

Increasing levels of traffic congestion cause significant delays in New Mexico, particularly in its larger urban areas, choking commuting and commerce. Traffic congestion robs commuters of time and money and imposes increased costs on businesses, shippers and manufacturers, which are often passed along to the consumer.

- Based on Texas Transportation Institute (TTI) estimates, the value of lost time and wasted fuel in New Mexico is approximately \$745 million per year.
- According to TTI, the average driver in the Albuquerque urban area loses \$886 each year in the cost of lost time and wasted fuel as a result of traffic congestion. The average Albuquerque commuter wastes 36 hours each year stuck in traffic.
- According to TTI, the average driver in the Las Cruces urban area loses \$220 each year in the cost of lost time and wasted fuel as a result of traffic congestion. The average Las Cruces commuter wastes eight hours each year stuck in traffic.
- In the Santa Fe area, TTI estimates that the average driver loses \$437 annually in the cost of lost time and wasted fuel as a result of traffic congestion. On average, each Santa Fe driver wastes 19 hours each year stuck in traffic.
- Increasing levels of congestion add significant costs to consumers, transportation companies, manufacturers, distributors and wholesalers and can reduce the attractiveness of a location to a company when considering expansion or where to locate a new facility. Congestion costs can also increase overall operating costs for trucking and shipping companies, leading to revenue losses, lower pay for drivers and employees, and higher consumer costs.

TRANSPORTATION FUNDING IN NEW MEXICO

Investment in New Mexico's roads, highways and bridges is funded by local, state and federal governments. The state faces a significant shortfall in funds needed to maintain and improve its transportation system.

- NMDOT's FY2017 budget only provides 54 percent of the annual funding required to make needed rehabilitation and repairs on state-maintained roads and highways. And NMDOT's FY2017 budget provides only 50 percent of the annual funding needed to fund needed bridge maintenance, rehabilitation or replacement.

Location	FY 2017	Needed	Shortfall	Share Funded
Road/Highway Preservation	\$141.9 million	\$260.5 million	\$118.6 million	54%
Bridge Repairs/Replacement	\$49 million	\$98.6 million	\$49.6 million	50%

- NMDOT has identified approximately \$1.5 billion in needed transportation projects throughout the state that would improve road and bridge conditions, ease congestion and

enhance economic development. However, at this time, only \$200 million is available for these projects, leaving a shortfall of approximately \$1.3 billion. The needed projects are listed below.

Project Description	Estimated Project Cost	Needed Funds	Project Benefit
DISTRICT 1 - Deming & Surrounding Area			
I-25, Roadway Reconstruction & Widen Road & Bridges to 6 lanes, I-10/I-25 interchange to US 70 interchange (including University interchange)	\$41,200,000	\$16,200,000	Congestion Relief
US 70, New 6 Lane Construction from Solano Ave to I-25/US 70 interchange	\$31,000,000	\$31,000,000	Congestion Relief & Econ Dev
I-25, Nogal Canyon, Reconstruction of Twin Bridges to Accommodate Oversize/Overweight Loads	\$28,000,000	\$28,000,000	Preservation & Econ Dev for Freight
US 180, Bayard to Pine Street, Reconstruct existing 2 Lane, widen shoulders and add passing lanes	\$27,600,000	\$27,600,000	Congestion Relief & Econ Dev
US 180, Bayard to Pine Street, Reconstruct existing 2 Lane, widen shoulders and add passing lanes	\$32,400,000	\$32,400,000	Congestion Relief & Econ Dev
West Mesa By-Pass, New Roadway from Pete Dominici Highway to I-10, Santa Teresa	\$85,000,000	\$85,000,000	Congestion Relief for Freight Movement
NM 1, Roadway Reconstruction, I-25 Nogal Canyon Oversize/Overweight By Pass	\$35,000,000	\$35,000,000	Econ Dev for Freight Movement
District 1 Total	\$280,200,000	\$255,200,000	
DISTRICT 2 - Roswell & Surrounding Area			
US 82, Enhanced 2-Lane (Passing Lanes, Shoulder Widening, Intersection Improvements)	\$63,500,000	\$63,500,000	Safety & Econ Dev (SE Oil Fields)
US 285, Shoulder Widening & Recon, Stalene to Loving	\$22,700,000	\$22,700,000	Safety & Econ Dev (SE Oil Fields)
US 54, Roadway Reconstruction	\$36,000,000	\$14,000,000	Econ Dev for Freight Movement
NM 8, Eunice North to JCT US 62 West of Hobbs	\$13,390,000	\$13,390,000	
US 380, Capitan to Hondo, MP 85 - 92	\$8,500,000	\$8,500,000	
District 2 Total	\$144,090,000	\$122,090,000	
DISTRICT 3- Albuquerque & Surrounding Area			
I-25, Roadway Reconstruction & Widen to 6 lanes (Widen Existing Bridges) from NM 314 to Isleta Pueblo (Broadway Interchange)	\$26,800,000	\$26,800,000	Congestion Management
I-25/Montgomery Interchange Reconstruction	\$50,000,000	\$50,000,000	Congestion Management
I-25, Widen to 6- Lanes Between 550 (Bernalillo) and Cerrillos Road (Santa Fe), Districts 3 & 5	\$255,000,000	\$255,000,000	Congestion Management & Econ Dev
I-25/South Los Lunas Interchange and East West Corridor, Construction of New Interchange and Roadway with River Crossing from I-25 to NM 47	\$97,000,000	\$97,000,000	Congestion Management & Econ Dev
Paseo Del Volcan, I-25 to Unser Blvd (Rio Rancho), Right of Way Preservation, Construction of 2-Lane at Grade Roadway, Construction of Interchange at I-25	\$83,100,000	\$83,100,000	Congestion Management & Econ Dev
I-25, Rehabilitation, Widening & Auxillary Lanes, Comanche Interchange to Jefferson Interchange	\$10,000,000	\$10,000,000	Congestion Management
NM 45, I-25 to Central Avenue	\$21,300,000	\$21,300,000	
NM 45, I-25 to Central Avenue	\$23,400,000	\$23,400,000	
District 3 Total	\$566,600,000	\$566,600,000	
DISTRICT 4- Las Vegas & Surrounding Area			
I-25, Roadway Reconstruction, North Raton Interchange to Stalene	\$38,000,000	\$0	Econ Dev (Raton Downtown) & Bridge
US 54, Pavement Rehabilitation w/spot reconstruction, shoulder widening and structure rehabilitation, Tucumcari to Texas State Line	\$151,000,000	\$119,456,823	Preservation & Econ Dev for Freight Movement
US 64/87, Pavement Rehabilitation w/spot reconstruction of two lanes, Raton to Clayton	\$121,000,000	\$118,000,000	System Preservation (Pavement)
US 56, Pavement Rehabilitation w/shoulder widening & Bridge Rehabilitation, Springer East to	\$15,000,000	\$15,000,000	
District 4 Total	\$325,000,000	\$252,456,823	
DISTRICT 5- Santa Fe & Surrounding Area			
US 64, Roadway Reconstruction (Capacity, Safety & Access Control), Farmington to Bloomfield	\$31,500,000	\$1,748,662	Econ Dev & Congestion Management
US 64, Truss Bridge Replacement @ MP 22.1, Near Shiprock	\$26,500,000	\$26,500,000	System Preservation (Bridge Conditions)
NM 68, Reconstruction and Intersection Realignment, La Posta Road to Camino Del Paseo Pueblo	\$11,000,000	\$4,000,000	Econ Dev & Preservation (Pavement)
NM 68, Roadway Reconstruction, Espanola to Velarde	\$27,000,000	\$6,422,568	System Preservation (Pavement)
US 64, Rio Arriba County Line-East to US 84, MP 87 - 107	\$22,900,000	\$22,900,000	
US 64, Rio Arriba County Line-East to US 84, MP 114.7 - 120	\$6,100,000	\$6,100,000	
US 64, Rio Arriba County Line-East to US 84, MP 120 - 135.5	\$17,800,000	\$17,800,000	
US 491, Shiprock to Colorado State Line, MP 94.2 - 107 / Bridge Rehab	\$19,900,000	\$19,900,000	
District 5 Total	\$162,700,000	\$105,371,230	
DISTRICT 6- Grants/Milan & Surrounding Area			
NM 118, Roadway Reconstruction, East of Gallup	\$16,000,000	\$13,500,000	Econ Dev, Roadway & Drainage
I-40, Roadway Reconstruction	\$20,000,000	\$0	System Preservation (Pavement)
District 6 Total	\$36,000,000	\$13,500,000	
STATEWIDE TOTAL	\$1,514,590,000	\$1,315,218,053	

- Signed into law in December 2015, the [Fixing America's Surface Transportation \(FAST\) Act](#), provides modest increases in federal highway and transit spending, allows states greater long-term funding certainty and streamlines the federal project approval process. But the FAST Act does not provide adequate funding to meet the nation's need for highway and transit improvements and does not include a long-term and sustainable funding source.

- The five-year, \$305 billion FAST Act will provide a boost of approximately 15 percent in highway funding and 18 percent in transit funding over the duration of the program, which expires in 2020.
- In addition to federal motor fuel tax revenues, the FAST Act will also be funded by \$70 billion in U.S. general funds, which will rely on offsets from several unrelated federal programs including the Strategic Petroleum Reserve, the Federal Reserve and U.S. Customs.
- According to the [2015 AASHTO Transportation Bottom Line Report](#), a significant boost in investment in the nation's roads, highways, bridges and public transit systems is needed to improve their condition and to meet the nation's transportation needs.
- AASHTO's report found that, based on an annual one percent increase in VMT, annual investment in the nation's roads, highways and bridges needs to increase 36 percent, from \$88 billion to \$120 billion, to improve conditions and meet the nation's mobility needs. Investment in the nation's public transit system needs to increase from \$17 billion to \$43 billion.
- The 2015 AASHTO Transportation Bottom Line Report found that if the national rate of vehicle travel increased by 1.4 percent per year, the needed annual investment in the nation's roads, highways and bridges would need to increase by 64 percent to \$144 billion. If vehicle travel grows by 1.6 percent annually the needed annual investment in the nation's roads, highways and bridges would need to increase by 77 percent to \$156 billion.

TRANSPORTATION AND ECONOMIC GROWTH IN NEW MEXICO

The efficiency of New Mexico's transportation system, particularly its highways, is critical to the health of the state's economy. Businesses rely on an efficient and dependable transportation system to move products and services. A key component in business efficiency and success is the level and ease of access to customers, markets, materials and workers.

- Annually, \$109 billion in goods are shipped to and from sites in New Mexico, mostly by truck.
- Seventy-three percent of the goods shipped annually to and from sites in New Mexico are carried by trucks and another 13 percent are carried by courier services or multiple mode deliveries, which include trucking.
- Businesses have responded to improved communications and greater competition by moving from a push-style distribution system, which relies on low-cost movement of bulk commodities and large-scale warehousing, to a pull-style distribution system, which relies on smaller, more strategic and time-sensitive movement of goods.
- Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly

maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system.

- Highway accessibility was ranked the number two site selection factor behind only the availability of skilled labor in a 2015 survey of corporate executives by [Area Development Magazine](#).
- The [Federal Highway Administration](#) estimates that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.

Sources of information for this report include the New Mexico Department of Transportation (NMDOT), the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the Bureau of Transportation Statistics (BTS), the U.S. Census Bureau, the Texas Transportation Institute (TTI) and the National Highway Traffic Safety Administration (NHTSA).

Introduction

New Mexico's roads, highways and bridges form vital transportation links for the state's residents, visitors and businesses, providing daily access to homes, jobs, shopping, natural resources and recreation. Modernizing New Mexico's transportation system is critical to fostering quality of life and economic competitiveness in the Land of Enchantment.

Supporting quality of life and a robust economy in New Mexico requires that the state provide a safe, efficient and well-maintained transportation system. Inadequate transportation investment, which will result in deteriorated transportation facilities and diminished access, will negatively affect economic competitiveness and quality of life in New Mexico.

To accommodate population and economic growth, maintain its level of economic competitiveness and achieve further economic growth, New Mexico will need to maintain and modernize its roads, highways and bridges by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient, reliable and safe mobility for residents, visitors and businesses. Making needed improvements to New Mexico's roads, highways, bridges and transit systems could also provide a significant boost to the state's economy by creating jobs in the short term and stimulating long term economic growth as a result of enhanced mobility and access.

This report examines the condition, use and safety of New Mexico's roads, highways and bridges, funding needs, and the future mobility needs of the state. Sources of information for this report include the New Mexico Department of Transportation (NMDOT), the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the Bureau of Transportation Statistics (BTS), the U.S.

Census Bureau, the Texas Transportation Institute (TTI), and the National Highway Traffic Safety Administration (NHTSA).

Population, Travel and Economic Trends in New Mexico

New Mexico residents and businesses require a high level of personal and commercial mobility. Population increases and economic growth in the state have resulted in an increase in the demand for mobility as well as an increase in vehicle miles of travel (VMT). To foster quality of life and spur continued economic growth in New Mexico, it will be critical that the state provide a safe and modern transportation system that can accommodate future growth in population, tourism, business, recreation and vehicle travel.

New Mexico's population grew to approximately 2.1 million residents in 2015, a 15 percent increase since 2000.¹ New Mexico had 1,467,782 licensed drivers in 2015.²

From 2000 to 2015, annual VMT in New Mexico increased by 16 percent, from 22.8 billion miles traveled annually to 26.3 billion miles traveled annually.³

During the first nine months of 2016, vehicle miles of travel in New Mexico were 1.9 percent higher than the first nine months of 2015.⁴

Based on population and other lifestyle trends, TRIP estimates that travel on New Mexico's roads and highways will increase by another 20 percent by 2030.⁵

From 2000 to 2015, New Mexico's gross domestic product (GDP), a measure of the state's economic output, increased by 24 percent, when adjusted for inflation.⁶ U.S. GDP increased 27 percent during this time.⁷

Condition of New Mexico’s Roads

The life cycle of New Mexico’s roads is greatly affected by the state and local governments’ ability to perform timely maintenance and upgrades to ensure that road and highway surfaces last as long as possible.

Statewide, 25 percent of New Mexico’s major locally and state-maintained roads are in poor condition, while 34 percent are in mediocre or fair condition, and 41 percent are in good condition.⁸

The chart below details pavement conditions on major urban roads in the Albuquerque, Las Cruces and Santa Fe urban areas.⁹

Chart 1. Pavement conditions on major urban roads.

Location	Poor	Mediocre	Fair	Good
Albuquerque	34%	25%	12%	28%
Las Cruces	26%	24%	14%	36%
Santa Fe	20%	32%	20%	28%

Source: Federal Highway Administration.

The pavement data in this report for all arterial roads and highways is provided by the Federal Highway Administration, based on data submitted annually by the New Mexico Department of Transportation on the condition of major state and locally maintained roads and highways in the state.

Pavement failure is caused by a combination of traffic, moisture and climate. Moisture often works its way into road surfaces and the materials that form the road’s foundation. Road surfaces at intersections are even more prone to deterioration because the slow-moving or standing loads occurring at these sites subject the pavement to higher levels of stress. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.¹⁰ As roads and highways continue to age,

they will reach a point of deterioration where routine paving and maintenance will not be adequate to keep pavement surfaces in good condition and costly reconstruction of the roadway and its underlying surfaces will become necessary.

The Costs to Motorists of Roads in Inadequate Condition

TRIP has calculated the additional cost to motorists of driving on roads in poor or unacceptable condition. When roads are in poor condition – which may include potholes, rutting or rough surfaces – the cost to operate and maintain a vehicle increases. These additional vehicle operating costs include accelerated vehicle depreciation, additional vehicle repair costs, increased fuel consumption and increased tire wear. TRIP estimates that additional vehicle operating costs (VOC) borne by New Mexico motorists as a result of poor road conditions is \$840 million annually.¹¹

The chart below details annual vehicle operating costs statewide and per driver in the Albuquerque, Las Cruces and Santa Fe urban areas.

Chart 2. Annual vehicle operating costs per driver in the urban areas of Albuquerque, Las Cruces and Santa Fe due to rough roads and statewide total cost.

Location	VOC
Albuquerque	\$703
Las Cruces	\$582
Santa Fe	\$551
New Mexico	\$840 Million

Source: TRIP estimate.

Additional vehicle operating costs have been calculated in the Highway Development and Management Model (HDM), which is recognized by the U.S. Department of Transportation and more than 100 other countries as the definitive analysis of the impact of road conditions on

vehicle operating costs. The HDM report is based on numerous studies that have measured the impact of various factors, including road conditions, on vehicle operating costs.¹²

The HDM study found that road deterioration increases ownership, repair, fuel and tire costs. The report found that deteriorated roads accelerate the pace of depreciation of vehicles and the need for repairs because the stress on the vehicle increases in proportion to the level of roughness of the pavement surface. Similarly, tire wear and fuel consumption increase as roads deteriorate since there is less efficient transfer of power to the drive train and additional friction between the road and the tires.

TRIP's additional vehicle operating cost estimate is based on taking the average number of miles driven annually by a motorist, calculating current vehicle operating costs based on AAA's 2015 vehicle operating costs and then using the HDM model to estimate the additional vehicle operating costs paid by drivers as a result of substandard roads.¹³ Additional research on the impact of road conditions on fuel consumption by the Texas Transportation Institute (TTI) is also factored into TRIP's vehicle operating cost methodology.

Bridge Conditions in New Mexico

New Mexico's bridges form key links in the state's highway system, providing communities and individuals access to employment, schools, shopping and medical facilities, and facilitating commerce and access for emergency vehicles.

Six percent of New Mexico's locally and state maintained bridges are rated as structurally deficient.¹⁴ A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. Deteriorated

bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid posted bridges. Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

Bridge conditions in New Mexico are likely to worsen as a result of a lack of adequate funding. The share of state-maintained bridges in poor condition (measured by deck surface) will more than double by 2026, increasing from 4.2 percent in 2017 to 9.8 percent in 2026, based on current funding.¹⁵

The chart below details the total number of bridges and the share of bridges in the Albuquerque, Las Cruces and Santa Fe urban areas that are rated structurally deficient.

Chart 3. Bridge Conditions in New Mexico’s Largest Urban Areas and Statewide.

Location	Structurally Deficient	Total Bridges
Albuquerque	1%	489
Las Cruces	8%	233
Santa Fe	5%	247

Source: National Bridge Inventory, Federal Highway Administration. 2015.

The service life of bridges can be extended by performing routine maintenance such as resurfacing decks, painting surfaces, insuring that a facility has good drainage and replacing deteriorating components. But, most bridges will eventually require more costly reconstruction or major rehabilitation to remain operable.

Traffic Safety in New Mexico

A total of 1,757 people were killed in motor vehicle crashes in New Mexico from 2012 through 2016, an average of 351 fatalities per year.¹⁶ In 2016, traffic fatalities in New Mexico rose by approximately one-third, increasing from 298 in 2015 to 398 in 2016.¹⁷

Chart 4. Traffic Fatalities in New Mexico from 2012 – 2016.

<i>Year</i>	<i>Fatalities</i>
2012	365
2013	310
2014	386
2015	298
2016	398
Total	1,757

Source: National Highway Traffic Safety Administration and the University of New Mexico.

Traffic crashes in New Mexico imposed a total of \$2.1 billion in economic costs in 2014.¹⁸ TRIP estimates that traffic crashes in which roadway features were likely a contributing factor imposed \$705 million in economic costs in 2014.¹⁹

Three major factors are associated with fatal vehicle crashes: driver behavior, vehicle characteristics and roadway features. It is estimated that roadway features are likely a contributing factor in approximately one-third of fatal traffic crashes. Roadway features that impact safety include the number of lanes, lane widths, lighting, lane markings, rumble strips, shoulders, guard rails, other shielding devices, median barriers and intersection design.

Improving safety on New Mexico's roadways can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and a variety of improvements in roadway safety features.

The severity of serious traffic crashes could be reduced through roadway improvements, where appropriate, such as adding turn lanes, removing or shielding obstacles, adding or improving medians, widening lanes, widening and paving shoulders, improving intersection layout, and providing better road markings and upgrading or installing traffic signals. Roads with poor geometry, with insufficient clear distances, without turn lanes, having inadequate shoulders

for the posted speed limits, or poorly laid out intersections or interchanges, pose greater risks to motorists, pedestrians and bicyclists.

Investments in rural traffic safety have been found to result in significant reductions in serious traffic crashes. A [2012 report by TTI](#) found that improvements completed recently by TxDOT that widened lanes, improved shoulders and made other safety improvements on 1,159 miles of rural state roadways resulted in 133 fewer fatalities on these roads in the first three years after the improvements were completed (as compared to the three years prior).²⁰ TTI estimates that the improvements on these roads are likely to save 880 lives over 20 years.²¹

Traffic Congestion in New Mexico

Increasing levels of traffic congestion cause significant delays in New Mexico, particularly in its larger urban areas, choking commuting and commerce. Traffic congestion robs commuters of time and money and imposes increased costs on businesses, shippers and manufacturers, which are often passed along to the consumer.

According to TTI estimates, the value of lost time and wasted fuel in New Mexico is approximately \$745 million per year. The chart below details the cost of congestion in the form of lost time and wasted fuel, and the number of hours lost to congestion by the average commuter in the state's largest urban areas.

Chart 5. Cost of congestion and hours lost annually.

Location	Hours Lost	Congestion Cost
Albuquerque	36	\$886
Las Cruces	8	\$220
Santa Fe	19	\$437

Source: Texas Transportation Institute Urban Mobility Report, 2015.

Increasing levels of congestion add significant costs to consumers, transportation companies, manufacturers, distributors and wholesalers. Increased levels of congestion can reduce the attractiveness of a location to a company when considering expansion or where to locate a new facility. Congestion costs can also increase overall operating costs for trucking and shipping companies, leading to revenue losses, lower pay for employees, and higher consumer costs.

Transportation Funding

Investment in New Mexico's roads, highways and bridges is funded by local, state and federal governments. A lack of sufficient funding at all levels will make it difficult to adequately maintain and improve the existing transportation system.

The state faces a significant shortfall in funds needed to maintain and improve its transportation system. NMDOT's FY2017 budget provides only 54 percent of the annual funding required to make needed rehabilitation and repairs on state-maintained roads and highways.²² The FY2017 budget allows for only 50 percent of the annual funding needed for bridge maintenance, rehabilitation or replacement. Based on NMDOT's FY2017 budget, the state faces an annual gap of \$118.6 million in funding for road and highway maintenance and a shortfall of \$49.6 million in funds for needed bridge maintenance, reconstruction and replacement.²³ While NMDOT estimates that \$260.5 million is needed annually to maintain and

preserve roads and highways, only \$141.9 million will be available in FY2017.²⁴ And while NMDOT estimates that \$98.6 million is needed annually for the maintenance, reconstruction and replacement of bridges, only \$49.6 million will be available.²⁵

Chart 6. New Mexico Road/Highway preservation and Bridge repair and replacement annual shortfall.

Location	FY 2017	Needed	Shortfall	Share Funded
Road/Highway Preservation	\$141.9 million	\$260.5 million	\$118.6 million	54%
Bridge Repairs/Replacement	\$49 million	\$98.6 million	\$49.6 million	50%

Source: NMDOT response to TRIP information request.

NMDOT has identified approximately \$1.5 billion in needed transportation projects throughout the state that would improve road and bridge conditions, ease congestion and enhance economic development.²⁶ However, at this time, only \$200 million is available for these projects, leaving a shortfall of approximately \$1.3 billion.²⁷ The needed projects are listed below.

Chart 7. Needed New Mexico transportation projects that are currently unfunded.

Project Description	Estimated Project Cost	Needed Funds	Project Benefit
DISTRICT 1 - Deming & Surrounding Area			
I-25, Roadway Reconstruction & Widen Road & Bridges to 6 lanes, I-10/I-25 interchange to US 70 interchange (including University interchange)	\$41,200,000	\$16,200,000	Congestion Relief
US 70, New 6 Lane Construction from Solano Ave to I-25/US 70 interchange	\$31,000,000	\$31,000,000	Congestion Relief & Econ Dev
I-25, Nogal Canyon, Reconstruction of Twin Bridges to Accommodate Oversize/Overweight Loads	\$28,000,000	\$28,000,000	Preservation & Econ Dev for Freight
US 180, Bayard to Pine Street, Reconstruct existing 2 Lane, widen shoulders and add passing lanes	\$27,600,000	\$27,600,000	Congestion Relief & Econ Dev
US 180, Bayard to Pine Street, Reconstruct existing 2 Lane, widen shoulders and add passing lanes	\$32,400,000	\$32,400,000	Congestion Relief & Econ Dev
West Mesa By-Pass, New Roadway from Pete Dominici Highway to I-10, Santa Teresa	\$85,000,000	\$85,000,000	Congestion Relief for Freight Movement
NM 1, Roadway Reconstruction, I-25 Nogal Canyon Oversize/Overweight By Pass	\$35,000,000	\$35,000,000	Econ Dev for Freight Movement
District 1 Total	\$280,200,000	\$255,200,000	
DISTRICT 2 - Roswell & Surrounding Area			
US 82, Enhanced 2-Lane (Passing Lanes, Shoulder Widening, Intersection Improvements)	\$63,500,000	\$63,500,000	Safety & Econ Dev (SE Oil Fields)
US 285, Shoulder Widening & Recon, Stalene to Loving	\$22,700,000	\$22,700,000	Safety & Econ Dev (SE Oil Fields)
US 54, Roadway Reconstruction	\$36,000,000	\$14,000,000	Econ Dev for Freight Movement
NM 8, Eunice North to JCT US 62 West of Hobbs	\$13,390,000	\$13,390,000	
US 380, Capitan to Hondo, MP 85 - 92	\$8,500,000	\$8,500,000	
District 2 Total	\$144,090,000	\$122,090,000	
DISTRICT 3- Albuquerque & Surrounding Area			
I-25, Roadway Reconstruction & Widen to 6 lanes (Widen Existing Bridges) from NM 314 to Isleta Pueblo (Broadway Interchange)	\$26,800,000	\$26,800,000	Congestion Management
I-25/Montgomery Interchange Reconstruction	\$50,000,000	\$50,000,000	Congestion Management
I-25, Widen to 6- Lanes Between 550 (Bernalillo) and Cerrillos Road (Santa Fe), Districts 3 & 5	\$255,000,000	\$255,000,000	Congestion Management & Econ Dev
I-25/South Los Lunas Interchange and East West Corridor, Construction of New Interchange and Roadway with River Crossing from I-25 to NM 47	\$97,000,000	\$97,000,000	Congestion Management & Econ Dev
Paseo Del Volcan, I-25 to Unser Blvd (Rio Rancho), Right of Way Preservation, Construction of 2-Lane at Grade Roadway, Construction of Interchange at I-25	\$83,100,000	\$83,100,000	Congestion Management & Econ Dev
I-25, Rehabilitation, Widening & Auxillary Lanes, Comanche Interchange to Jefferson Interchange	\$10,000,000	\$10,000,000	Congestion Management
NM 45, I-25 to Central Avenue	\$21,300,000	\$21,300,000	
NM 45, I-25 to Central Avenue	\$23,400,000	\$23,400,000	
District 3 Total	\$566,600,000	\$566,600,000	
DISTRICT 4- Las Vegas & Surrounding Area			
I-25, Roadway Reconstruction, North Raton Interchange to Stalene	\$38,000,000	\$0	Econ Dev (Raton Downtown) & Bridge
US 54, Pavement Rehabilitation w/spot reconstruction, shoulder widening and structure rehabilitation, Tucumcari to Texas State Line	\$151,000,000	\$119,456,823	Preservation & Econ Dev for Freight Movement
US 64/87, Pavement Rehabilitation w/spot reconstruction of two lanes, Raton to Clayton	\$121,000,000	\$118,000,000	System Preservation (Pavement)
US 56, Pavement Rehabilitation w/shoulder widening & Bridge Rehabilitation, Springer East to	\$15,000,000	\$15,000,000	
District 4 Total	\$325,000,000	\$252,456,823	
DISTRICT 5- Santa Fe & Surrounding Area			
US 64, Roadway Reconstruction (Capacity, Safety & Access Control), Farmington to Bloomfield	\$31,500,000	\$1,748,662	Econ Dev & Congestion Management
US 64, Truss Bridge Replacement @ MP 22.1, Near Shiprock	\$26,500,000	\$26,500,000	System Preservation (Bridge Conditions)
NM 68, Reconstruction and Intersection Realignment, La Posta Road to Camino Del Paseo Pueblo	\$11,000,000	\$4,000,000	Econ Dev & Preservation (Pavement)
NM 68, Roadway Reconstruction, Espanola to Velarde	\$27,000,000	\$6,422,568	System Preservation (Pavement)
US 64, Rio Arriba County Line-East to US 84, MP 87 - 107	\$22,900,000	\$22,900,000	
US 64, Rio Arriba County Line-East to US 84, MP 114.7 - 120	\$6,100,000	\$6,100,000	
US 64, Rio Arriba County Line-East to US 84, MP 120 - 135.5	\$17,800,000	\$17,800,000	
US 491, Shiprock to Colorado State Line, MP 94.2 - 107 / Bridge Rehab	\$19,900,000	\$19,900,000	
District 5 Total	\$162,700,000	\$105,371,230	
DISTRICT 6- Grants/Milan & Surrounding Area			
NM 118, Roadway Reconstruction, East of Gallup	\$16,000,000	\$13,500,000	Econ Dev, Roadway & Drainage
I-40, Roadway Reconstruction	\$20,000,000	\$0	System Preservation (Pavement)
District 6 Total	\$36,000,000	\$13,500,000	
STATEWIDE TOTAL	\$1,514,590,000	\$1,315,218,053	

Source: NMDOT response to TRIP information request.

In addition to state funding, the federal government is a critical source of funding for New Mexico's roads, highways, bridges and transit systems. Most federal funds for highway and transit improvements in New Mexico are provided by federal highway user fees, largely an 18.4 cents-per-gallon tax on gasoline and a 24.4 cents-per-gallon tax on diesel fuel. Since 2008 revenue into the federal Highway Trust Fund has been inadequate to support legislatively set

funding levels so Congress has transferred approximately \$53 billion in general funds and an additional \$2 billion from a related trust fund into the federal Highway Trust Fund.²⁸

Signed into law in December 2015, the [Fixing America's Surface Transportation \(FAST\) Act](#), provides modest increases in federal highway and transit spending. The five-year bill also provides states with greater funding certainty and streamlines the federal project approval process. But the FAST Act does not provide adequate funding to meet the nation's need for highway and transit improvements and does not include a long-term and sustainable funding source.

The five-year, \$305 billion FAST Act will provide a boost of approximately 15 percent in highway funding and 18 percent in transit funding over the duration of the program, which expires in 2020.²⁹ In addition to federal motor fuel tax revenues, the FAST Act will also be funded by \$70 billion in U.S. general funds, which will rely on offsets from several unrelated federal programs including the Strategic Petroleum Reserve, the Federal Reserve and U.S. Customs.

According to the [2015 AASHTO Transportation Bottom Line Report](#), a significant boost in investment in the nation's roads, highways, bridges and public transit systems is needed to improve their condition and to meet the nation's transportation needs. The AASHTO report found that based on an annual one percent increase in VMT that annual investment in the nation's roads, highways and bridges needs to increase by 36 percent, from \$88 billion to \$120 billion to improve conditions and meet the nation's mobility needs.³⁰ Investment in the nation's public transit system needs to increase from \$17 billion to \$43 billion.³¹

The AASHTO report found that if the rate of vehicle travel increased by 1.4 percent per year, the needed annual investment in the nation's roads, highways and bridges would need to

increase by 64 percent, to \$144 billion. If vehicle travel grows by 1.6 percent annually the needed annual investment in the nation's roads, highways and bridges would need to increase by 77 percent, to \$156 billion.³²

Importance of Transportation to Economic Growth

Today's culture of business demands that an area have well-maintained and efficient roads, highways and bridges if it is to remain economically competitive. Global communications and the impact of free trade in North America and elsewhere have resulted in a significant increase in freight movement, making the quality of a region's transportation system a key component in a business's ability to compete locally, nationally and internationally.

Businesses have responded to improved communications and the need to cut costs with a variety of innovations including just-in-time delivery, increased small package delivery, demand-side inventory management and e-commerce. The result of these changes has been a significant improvement in logistics efficiency as firms move from a push-style distribution system, which relies on large-scale warehousing of materials, to a pull-style distribution system, which relies on smaller, more strategic movement of goods. These improvements have made mobile inventories the norm, resulting in the nation's trucks literally becoming rolling warehouses.

Highways are vitally important to continued economic development in New Mexico, particularly to the state's manufacturing, mineral extraction and tourism industries. As the economy expands, creating more jobs and increasing consumer confidence, the demand for consumer and business products grows. In turn, manufacturers ship greater quantities of goods to

market to meet this demand, a process that adds to truck traffic on the state's highways and major arterial roads.

Every year, \$109 billion in goods are shipped to and from sites in New Mexico, mostly by trucks.³³ Seventy-three percent of the goods shipped annually to and from sites in New Mexico are carried by trucks and another 13 percent are carried by courier services or multiple-mode deliveries, which include trucking.³⁴

The cost of road and bridge improvements are more than offset by the reduction of user costs associated with driving on rough roads, the improvement in business productivity, the reduction in delays and the improvement in traffic safety. The [Federal Highway Administration estimates](#) that each dollar spent on road, highway and bridge improvements results in an average benefit of \$5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.³⁵

Local, regional and state economic performance is improved when a region's surface transportation system is expanded or repaired. This improvement comes as a result of the initial job creation and increased employment created over the long-term because of improved access, reduced transport costs and improved safety.

Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system. In fact, highway accessibility was ranked the number two site selection factor behind only the availability of skilled labor in a 2015 survey of corporate executives by [Area Development Magazine](#).³⁶

Conclusion

As New Mexico works to build and enhance a thriving, growing and dynamic state, it will be critical that it is able to address the state's most significant transportation issues by providing a 21st century network of roads, highways, bridges and transit that can accommodate the mobility demands of a modern society.

New Mexico will need to modernize its surface transportation system by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient and reliable mobility for residents, visitors and businesses. Making needed improvements to the state's roads, highways, bridges and transit systems could provide a significant boost to the economy by creating jobs in the short term and stimulating long-term economic growth as a result of enhanced mobility and access.

While the modest funding increase provided by the FAST Act will be helpful, numerous projects to improve the condition and expand the capacity of New Mexico's roads, highways, bridges and transit systems will not proceed without a substantial boost in state or local transportation funding. If New Mexico is unable to complete needed transportation projects it will hamper the state's ability to improve the condition and efficiency of its transportation system and to enhance economic development opportunities and quality of life.

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Endnotes

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- ¹ U.S. Census Bureau (2016).
- ² Highway Statistics (2015). Federal Highway Administration. DL-1C
- ³ U.S. Department of Transportation - Federal Highway Administration: Highway Statistics 2000 and 2015.
- ⁴ TRIP analysis of Federal Highway Administration's monthly Traffic Volume Trends (2016) Federal Highway Administration.
- ⁵ TRIP calculation based on U.S. Census and Federal Highway Administration data.
- ⁶ TRIP analysis of Bureau of Economic Analysis data.
- ⁷ Ibid.
- ⁸ Federal Highway Administration (2016). Pavement condition data is for 2014.
- ⁹ Federal Highway Administration (2016). Pavement condition data is for 2014.
- ¹⁰ Selecting a Preventative Maintenance Treatment for Flexible Pavements. R. Hicks, J. Moulthrop. Transportation Research Board. 1999. Figure 1.
- ¹¹ TRIP calculation
- ¹² Highway Development and Management: Volume Seven. Modeling Road User and Environmental Effects in HDM-4. Bennett, C. and Greenwood, I. 2000.
- ¹³ Your Driving Costs. American Automobile Association. 2015
- ¹⁴ Federal Highway Administration National Bridge Inventory, 2016.
- ¹⁵ NMDOT response to TRIP data request
- ¹⁶ National Highway Traffic Safety Administration data. 2016 fatality data from University of New Mexico, New Mexico Monthly Traffic Fatality Report, 2016.
- ¹⁷ University of New Mexico (2017). New Mexico Monthly Traffic Fatality Report, 2016. <https://tru.unm.edu/Crash-Reports/Fatality-Reports/2016-fatalities.pdf>
- ¹⁸ TRIP estimate based on NHTSA report "The Economic and Societal Impact Of Motor Vehicle Crashes, 2010 (Revised), 2015. P. 146.
- ¹⁹ Ibid.
- ²⁰ Adding Highway Shoulders, Width, Reduce Crash Numbers and Save Lives (August 9, 2012). Texas Transportation Institute.
- ²¹ Ibid.
- ²² TRIP analysis of NMDOT response to TRIP data request
- ²³ NMDOT response to TRIP data request.
- ²⁴ Ibid.
- ²⁵ Ibid.
- ²⁶ Ibid.
- ²⁷ Ibid.
- ²⁸ "Surface Transportation Reauthorization and the Solvency of the Highway Trust Fund," presentation by Jim Tyson, American Association of State Highway and Transportation Officials (2014).
- ²⁹ 2015 "Fixing America's Surface Transportation Act." (2015) American Road and Transportation Builders Association. <http://www.artba.org/newsline/wp-content/uploads/2015/12/ANALYSIS-FINAL.pdf>
- ³⁰ 2015 AASHTO Bottom Line Report (2014) AASHTO. P. 2.
- ³¹ Ibid.
- ³² Ibid.
- ³³ TRIP analysis of Bureau of Transportation Statistics, U.S. Department of Transportation. 2012 Commodity Flow Survey, State Summaries.
- ³⁴ Ibid.
- ³⁵ FHWA estimate based on its analysis of 2006 data. For more information on FHWA's cost-benefit analysis of highway investment, see the 2008 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance.

³⁶ Area Development Magazine (2016). 30th Annual Survey of Corporate Executives: Availability of Skilled Labor New Top Priority. <http://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2016/corporate-executive-site-selection-facility-plans-441729.shtml>