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TRIP'S New Report Identifies Texas' Top 100 Transportation Challenges And Needed Fixes, Including Deteriorated And Congested Roadways, Deficient Bridges And Needed Safety Improvements

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TRIP
a national transportation research group Deficient roads, highways and bridges and crowded or congested routes in Texas are posing mounting challenges to the state's residents, visitors and businesses in the form of lost time, increased vehicle operating costs and the financial burden of making needed transportation improvements. This is according to a new report released today by TRIP, a Washington, DC based national transportation research organization.

The report, *"Texas' Top 100 Transportation Challenges and the Improvements Needed to Address Them,"* identifies 38 segments of the state's major roads and highways that have significant levels of traffic congestion; seven sections of major roads or highways that have significant pavement deterioration and need to be reconstructed; 11 segments of state roadways that need safety improvements; 11 major bridges in the state that have significant deficiencies and need to be rebuilt or reconstructed; and, 33 roadway facilities in the state that have multiple needs, including congestion, safety, pavement or bridge challenges. The report also offers solutions for fixing each of the transportation challenges.

The top transportation challenges in the state, as identified by the TRIP report, are as follows. Additional details for all 100 transportation challenges can be found in the report's Appendix.

- **1. Deterioration and Congestion on IH 30 in Dallas-Fort Worth.** IH 30 in Dallas County, a critical route for regional and statewide connectivity, is significantly congested and deteriorated from Jefferson to SL 12 East. The freeway would need to be reconstructed and widened, with two to four managed lanes added to relieve congestion.
- **2. Deterioration and Congestion on a section of IH 45 in Houston.** IH 45 is a critical route for hurricane evacuation in the greater Houston-Galveston area as well as a major freight route connecting to the Port of Houston. However, from IH 610 to SL 8, IH 45 experiences significant congestion and lacks adequate mobility to support economic development opportunities. Some segments of this roadway, as well as the bridges it traverses, will need to be widened, reconstructed or replaced to improve mobility on the corridor.
- **3. Congestion on IH 35 in San Antonio.** IH 35 acts as the primary route for vehicle and truck traffic from the Texas border to San Antonio, Austin and Dallas/Fort Worth. This section of IH 35, from IH 410 to FM 3009, carries significant truck traffic due to numerous industrial companies located nearby. Because the current traffic volume exceeds the capacity of the current roadway, significant bottlenecks form at the IH 35/IH 410N and IH 35/410S interchanges. Congestion could be eased by expanding the existing six to eight-lane facility to 14 lanes (6 Managed Lanes) from US 281/IH 37 to FM 3009. While the corridor is currently undergoing a Planning and environmental study, no funding has been identified.
- **4. IH 35W Congestion in Dallas/Fort Worth.** This section of I 35W, from SH 183 to US 81 in Tarrant County, experiences severe congestion due to inadequate capacity and obsolete interchanges. In order to ease congestion, the roadway would need to be reconstructed to add managed HOV lanes.
- **5. Congestion on IH 410 in San Antonio.** This section of IH 410, from US 281 to IH 35, is the primary connection between San Antonio International Airport and IH 35. The current traffic volume exceeds the capacity of the roadway, leading to chokepoints on IH 35 where EB 410 merges with NB 35. Needed improvements to the IH 35/IH 410 Interchange would ease the existing bottleneck from EB 410 to IH 35.
- **6. Deteriorated Pavement Conditions on Statewide Secondary Roads serving the state's energy sector.** Throughout the state, secondary rural and urban roads are becoming increasingly deteriorated. These routes are critical to the development and growth of Texas' energy extraction sector. However, many are in need of major repairs and added structural capacity to handle the increased traffic, mainly from large trucks as a result of the growth in the state's energy sector.
- **7. Congestion on US 75 in Dallas/Fort Worth.** This section of US 75, from SH 190 to IH 635 experiences significant congestion and has already been built to maximum capacity. Congestion on this route could be eased by the addition of six elevated managed HOV lanes and Intelligent Transportation System (ITS) improvements.
- **8. Deterioration and Congestion on a section of IH 45 in Houston.** IH 45 is a vital route for hurricane evacuation in the Greater Houston-Galveston area as well as a major route for transporting goods to and from the Port of Houston. From IH 10 to IH 610, this route experiences significant congestion and contains roadway segments and bridge facilities that need to be reconstructed or replaced. In order to improve road and bridge conditions and relieve congestion, this potion of IH 45 and various interchanges would need to be widened and reconstructed.

- **9. Congestion on US 290 in Austin.** As a major commuter route, US 290 between SL 1 and RM 1826 experiences severe congestion. This area has seen high residential growth without corresponding transportation improvements that would facilitate the convergence of three major highways: US 290, SH 71 and Loop 1 (about three miles east). During peak periods there is no access for emergency vehicles due to congestion, lack of shoulders and no alternative route. To ease congestion, the route would need to be reconstructed to add a six-lane toll road with frontage roads.
- **10. Bridge Deficiency, Safety and Congestion on US 181 at the Corpus Christi Ship Channel.** US 181 connects Corpus Christi and the Port facilities to communities and facilities north of the ship channel. The current route is congested, needs safety improvements and includes a deficient bridge. However, because a replacement structure that would meet modern design standards does not fit in the current footprint, a new location is needed. A new structure would address the steep climb, sharp approach curves and lack of shoulders on the current structure.

TRIP ranked Texas' top transportation challenges by giving each segment or facility an overall score, based on a scale that included points for the following categories: current volume of daily travel or ridership; the challenge posed to the public based on the significance of the problem or deficiency; the importance of the route or facility to regional, interstate or international travel patterns; the importance of the route or facility to the regional economy; and, the cost to repair the deficiency.

"Texas has many more transportation challenges than it has dollars to put towards fixing them," said Lawrence Olsen, executive director of the Texas Good Roads & Transportation Association. "While it will take a significant investment to improve Texas' transportation system, the state simply cannot afford not to address the mounting deficiencies on our roads and bridges. Failure to adequately fund the state's transportation system will result in further deterioration and congestion and countless lost economic opportunities."

Enhancing critical segments of Texas' transportation system will boost the state's economy in the short-term by creating jobs in construction and related fields. In the long term these improvements will enhance economic competitiveness and improve the quality of life for the state's residents and visitors by reducing travel delays and transportation costs, improving access and mobility, improving safety, and stimulating sustained job growth. Sustaining Texas' long-term economic growth and maintaining the state's high quality of life will require increased investment in expanding the capacity of the state's transportation system, which will enhance business productivity and support short- and long-term job creation in the state.

"Investing in Texas' transportation system and eliminating these challenges by improving the condition and efficiency of the state's roads, highways and bridges will be an effective step in growing the state's economy, enhancing quality of life and making Texas an attractive place to live, work and visit," said Will Wilkins, executive director of TRIP.

Executive Summary

Texas' Top 100 Transportation Challenges and Improvements Needed to Address Them

Texas' extensive system of roads, highways and bridges provides the state's residents, visitors and businesses with a high level of mobility. As the backbone of the Lone Star State's economy, Texas' surface transportation system plays a vital role in the state's economic well-being, and is an integral part of what makes Texas an attractive place to live, work and do business.

However, increasing roadway and bridge deterioration, traffic safety concerns and growing congestion threaten to stifle economic growth and negatively impact the quality of life of the state's 26 million residents. Due to insufficient transportation funding at the federal, state and local level, Texas faces numerous challenges in providing a road, highway and bridge network that is smooth, well-maintained, as safe as possible, and that affords a level of mobility capable of supporting the state's economic goals.

As Texas looks to build and maintain a thriving and diverse economy, it will need to modernize its transportation system by improving the physical condition of its roads, highways and bridges, and enhancing the system's ability to provide efficient, safe and reliable mobility to the state's residents, visitors and businesses. Making needed improvements to Texas' roads, highways and bridges would provide a significant boost to the state's economy by stimulating short and long-term economic growth.

Numerous segments of Texas' transportation system have significant deterioration, are congested or crowded, lack some desirable safety features, and do not have adequate capacity to provide reliable mobility, creating challenges for Texas' residents, visitors, businesses and state and local governments. This report looks at the condition and use of Texas' system of roads, highways and bridges and provides information on the state's top 100 transportation challenges and the improvements needed to address these challenges.

Deficient roads, highways and bridges and crowded or congested routes in Texas are posing mounting challenges to the state's residents, visitors and businesses in the form of lost time, increased vehicle operating costs and the financial burden of making needed transportation improvements.

- Texas' top 100 transportation challenges as ranked by TRIP include: 38 segments of the state's major roads and highways that have significant levels of traffic congestion; seven sections of major roads or highways that have significant pavement deterioration and need to be reconstructed; 11 segments of state roadways that need safety improvements; 11 major bridges in the state that have significant deficiencies and need to be rebuilt or reconstructed; and, 33 roadway facilities in the state that have multiple needs, including congestion, safety, pavement or bridge challenges. (Some of the segments identified have multiple challenges, including congestion, safety and road and bridge deficiencies.)
- TRIP ranked Texas' top transportation challenges by giving each segment or facility an overall score, based on a scale that included points for the following categories: current volume of daily travel or ridership; the challenge posed to the public based on the significance of the problem or deficiency; the importance of the route or facility to regional, interstate or international travel patterns; the importance of the route or facility to the regional economy; and, the cost to repair the deficiency.
- The following list details the top 10 transportation challenges in Texas. Further details about each challenge, as well as the full list of 100 challenges, can be found in the Appendix.
- **11. Deterioration and Congestion on IH 30 in Dallas-Fort Worth.** IH 30 in Dallas County, a critical route for regional and statewide connectivity, is significantly congested and deteriorated from Jefferson to SL 12 East. The freeway would need to be reconstructed and widened, with two to four managed lanes added to relieve congestion.
- **12. Deterioration and Congestion on a section of IH 45 in Houston.** IH 45 is a critical route for hurricane evacuation in the greater Houston-Galveston area as well as a major freight route connecting to the Port of Houston. However, from IH 610 to SL 8, IH 45 experiences significant congestion and lacks adequate mobility to support economic development opportunities. Some segments of this roadway, as well as the bridges it traverses, will need to be widened, reconstructed or replaced to improve mobility on the corridor.
- **13. Congestion on IH 35 in San Antonio.** IH 35 acts as the primary route for vehicle and truck traffic from the Texas border to San Antonio, Austin and Dallas/Fort Worth. This section of IH 35, from IH 410 to FM 3009, carries significant truck traffic due to numerous industrial companies located nearby. Because the current traffic volume exceeds the capacity of the current roadway, significant bottlenecks form at the IH 35/IH 410N and IH 35/410S interchanges. Congestion could be eased by expanding the

existing six to eight-lane facility to 14 lanes (6 Managed Lanes) from US 281/IH 37 to FM 3009. While the corridor is currently undergoing a Planning and environmental study, no funding has been identified.

- **14. IH 35W Congestion in Dallas/Fort Worth.** This section of I 35W, from SH 183 to US 81 in Tarrant County, experiences severe congestion due to inadequate capacity and obsolete interchanges. In order to ease congestion, the roadway would need to be reconstructed to add managed HOV lanes.
- **15. Congestion on IH 410 in San Antonio.** This section of IH 410, from US 281 to IH 35, is the primary connection between San Antonio International Airport and IH 35. The current traffic volume exceeds the capacity of the roadway, leading to chokepoints on IH 35 where EB 410 merges with NB 35. Needed improvements to the IH 35/IH 410 Interchange would ease the existing bottleneck from EB 410 to IH 35.
- **16. Deteriorated Pavement Conditions on Statewide Secondary Roads serving the state's energy sector.** Throughout the state, secondary rural and urban roads are becoming increasingly deteriorated. These routes are critical to the development and growth of Texas' energy extraction sector. However, many are in need of major repairs and added structural capacity to handle the increased traffic, mainly from large trucks as a result of the growth in the state's energy sector.
- **17. Congestion on US 75 in Dallas/Fort Worth.** This section of US 75, from SH 190 to IH 635 experiences significant congestion and has already been built to maximum capacity. Congestion on this route could be eased by the addition of six elevated managed HOV lanes and Intelligent Transportation System (ITS) improvements.
- **18. Deterioration and Congestion on a section of IH 45 in Houston.** IH 45 is a vital route for hurricane evacuation in the Greater Houston-Galveston area as well as a major route for transporting goods to and from the Port of Houston. From IH 10 to IH 610, this route experiences significant congestion and contains roadway segments and bridge facilities that need to be reconstructed or replaced. In order to improve road and bridge conditions and relieve congestion, this potion of IH 45 and various interchanges would need to be widened and reconstructed.
- **19. Congestion on US 290 in Austin.** As a major commuter route, US 290 between SL 1 and RM 1826 experiences severe congestion. This area has seen high residential growth without corresponding transportation improvements that would facilitate the convergence of three major highways: US 290, SH 71 and Loop 1 (about three miles east). During peak periods there is no access for emergency vehicles due to congestion, lack of shoulders and no alternative route. To ease congestion, the route would need to be reconstructed to add a six-lane toll road with frontage roads.
- **20. Bridge Deficiency, Safety and Congestion on US 181 at the Corpus Christi Ship Channel.** US 181 connects Corpus Christi and the Port facilities to communities and facilities north of the ship channel. The current route is congested, needs safety improvements and includes a deficient bridge. However, because a replacement structure that would meet modern design standards does not fit in the current footprint, a new location is needed. A new structure would address the steep climb, sharp approach curves and lack of shoulders on the current structure.

Growth in population and vehicle travel has far outstripped the current capacity of Texas' transportation system. The state's population and economy will continue to grow in the future, bringing mounting challenges for the existing network of roads and bridges.

- From 1990 to 2011, Texas' population increased by 51 percent, from approximately 17 million to approximately 25.7 million. Texas' population is expected to increase to 37.3 million by 2030.
- From 1990 to 2010, annual vehicle-miles-of-travel (VMT) in the state increased by 44 percent, from approximately 162.2 billion VMT to 234 billion VMT. Based on travel and population trends, TRIP estimates that vehicle travel in Texas will increase another 35 percent by 2030, reaching approximately 304 billion VMT.
- In 2013, Texas is projected to have a 3.9 percent rate of economic growth, measured in real Gross State Product (GSP), which is factored for price changes. This rate of growth is higher than the forecast three percent increase in national real GSP in 2013.
- Every year, $1.167 billion in goods are shipped from sites in Texas and another $1.246 billion in goods are shipped to sites in Texas, mostly by trucks. Sixty percent of the goods shipped annually from sites in Texas are carried by trucks and another nine percent are carried by parcel, U.S. Postal Service or courier services, which use trucks for part of their deliveries.

Texas' extensive transportation system has some road and bridge deficiencies, lacks some desirable safety features and experiences severe congestion in key areas, which represents a significant cost to the state's motorists. Improvements to the condition and efficiency of the state's transportation system would enhance quality of life, roadway safety and economic development.

- Texas' population and economy will continue to grow in the future, bringing mounting challenges for the existing network of roads and bridges. The state will need to expand key roads, highways and bridges to increase mobility and ease traffic congestion, make needed road and bridge repairs, and improve roadway safety.
- Texas' system of 311,249 miles of roads and 51,862 bridges carries 234 billion vehicle miles of travel annually.
- In 2010, 18 percent of Texas' major urban roads were in poor condition and an additional 27 percent were in mediocre condition.
- The pavement data in this report is provided by the Federal Highway Administration, based on data submitted annually by the Texas Department of Transportation (TxDOT) on the condition of major state and locally maintained roads and highways in the state.
- Three percent of Texas' bridges were rated structurally deficient in 2011. 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, school buses and emergency services vehicles.
- Congestion is more than just a headache for commuters. The Texas Transportation Institute (TTI) estimates that congestion will cost the state's economy an average of $20 billion per year through 2025, rising from a current cost of approximately $10.8 billion per year to almost $30 billion in 2025.
- In 2011, 15 percent of Texas' bridges were rated as functionally obsolete. Bridges that are functionally obsolete no longer meet current highway design standards or are inadequate to accommodate current traffic levels, often because of narrow lanes, inadequate clearances or poor alignment.
- Texas' urban roads are becoming increasingly congested, hampering commuting and commerce while reducing economic opportunities and quality of life in the state. Unless Texas' transportation system is improved and enhanced, congestion will worsen dramatically in the coming years.

- If roadway efficiency and capacity needs are not addressed, the average annual congestion-related delay in Texas' urban and metropolitan areas will double in 15 years from 37 hours per motorist each year to 74 hours per motorist.
- Roadway features are likely a contributing factor in approximately one-third of traffic fatalities. There were 2,998 traffic fatalities in 2010 in Texas. A total of 16,448 people died on Texas' highways from 2006 through 2010.
- 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.
- Texas' traffic fatality rate of 1.28 fatalities per 100 million vehicle miles of travel in 2010 was higher than the national average of 1.11.
- 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.
- A 2012 TRIP report found that Texas' 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 $23.2 billion annually in the form of traffic crashes, additional vehicle operating costs and the cost of lost time and wasted fuel due to traffic congestion.

Unless transportation funding is increased, Texas' roads and bridges will become increasingly deteriorated and congested and needed safety improvements will remain unfunded. The state faces a significant funding shortfall in the amount needed just to maintain the transportation system in its current condition.

- Over the past decade, roadway maintenance and capacity in Texas have been largely funded through bond proceeds. However, all bonding programs have now been exhausted, resulting in a 50 percent drop in funding levels from a decade ago and leaving no funds available for new construction.
- A report issued by the 2030 Committee calculated that an annual statewide investment of $9.9 billion was needed just to maintain road and bridge conditions and congestion at 2010 levels. However, after fiscal year 2014, annual state highway investment is anticipated to average just $2.4 billion annually.
- Under current funding scenarios, overall pavement quality is projected to decrease by 43 percent by 2022. Failing to address pavement deterioration in a timely manner increases repair costs over time. In Texas, underfunding maintenance on the state's roads will increase the cost to preserve and restore the pavement by $6.5 billion over the next ten years when comparing to the minimum funding amount.
- While the growth and expansion of Texas' oil, gas and wind energy sectors has been beneficial for the state's economic well being, increased traffic (especially by heavy trucks) has had a significant impact on the condition of the state's roads and highways. A new report by the Texas Transportation Institute found that the cost of additional road repairs needed as a result of the energy boom's wear and tear on state and county roads in Texas is estimated to be an additional $2 billion each year for the next 20 years.

Transportation projects that improve the efficiency, condition or safety of a highway provide significant economic benefits by reducing transportation delays and costs associated with a deficient transportation system. Some benefits of transportation improvements include the following.

- Improved business competitiveness due to reduced production and distribution costs as a result of increased travel speeds and fewer mobility barriers.
- Improvements in household welfare resulting from better access to higher-paying jobs, a wider selection of competitively priced consumer goods, additional housing and healthcare options, and improved mobility for residents without access to private vehicles.
- Gains in local, regional and state economies due to improved regional economic competitiveness, which stimulates population and job growth.
- Increased leisure/tourism and business travel resulting from the enhanced condition and reliability of a region's transportation system.
- A reduction in economic losses from vehicle crashes, traffic congestion and vehicle maintenance costs associated with driving on deficient roads.
- The creation of both short-term and long-term jobs.
- Transportation projects that expand roadway or bridge capacity produce significant economic benefits by reducing congestion and improving access, thus speeding the flow of people and goods while reducing fuel consumption.
- Transportation projects that maintain and preserve existing transportation infrastructure also provide significant economic benefits by improving travel speeds, capacity, load-carry abilities and safety, and reducing operating costs for people and businesses. Such projects also extend the service life of a road, bridge or transit vehicle or facility, which saves money by either postponing or eliminating the need for more expensive future repairs.
- Site Selection magazine's 2010 survey of corporate real estate executives found that transportation infrastructure was the third most important selection factor in site location decisions, behind only work force skills and state and local taxes.
- A 2007 analysis by the Federal Highway Administration found that every $1 billion invested in highway construction would support approximately 27,800 jobs, including approximately 9,500 in the construction sector, approximately 4,300 jobs in industries supporting the construction sector, and approximately 14,000 other jobs induced in non-construction related sectors of the economy.
- 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 data for this report include the Texas Department of Transportation (TxDOT), the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Bureau of Transportation Statistics (BTS), the Bureau of Economic Analysis, the Texas Transportation Institute (TTI), and the U.S. Census Bureau. All data used in the report is the latest available