TRIP REPORT CONFIRMS FINDINGS OF 2019 REPORT REQUESTED BY CONGRESS THAT FOUND MOST OF INTERSTATE SYSTEM NEEDS TO BE RECONSTRUCTED AND MODERNIZED

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AGING U.S. INTERSTATE SYSTEM FACES INCREASED USAGE, MOUNTING CONGESTION AND DETERIORATING ROAD AND BRIDGE CONDITIONS; TRIP REPORT CONFIRMS FINDINGS OF 2019 REPORT REQUESTED BY CONGRESS THAT FOUND MOST OF INTERSTATE SYSTEM NEEDS TO BE RECONSTRUCTED AND MODERNIZED, REQUIRING MORE THAN A DOUBLING OF CURRENT FUNDING AND STRONG FEDERAL AND STATE LEADERSHIP

As the U.S. Interstate Highway System reaches 64 years old, it faces increasing congestion, unprecedented levels of travel – particularly by large trucks – and insufficient funding to make needed repairs and improvements. America’s most critical transportation link will need to be rebuilt and expanded to meet the nation’s growing transportation needs, according to a report released today by TRIP, a national transportation research nonprofit. The report, Restoring the Interstate Highway System: Meeting America’s Transportation Needs with a Reliable, Safe & Well-Maintained National Highway Network, looks at the Interstate system’s use, condition and benefits, and the findings of a 2019 report prepared by the Transportation Research Board (TRB), at the request of Congress as part of the Fixing America’s Surface Transportation (FAST) Act, on the condition and use of the Interstate system and on actions required to restore and upgrade the Interstate system.

The chart below ranks states whose Interstate systems are the most congested, have experienced the greatest increase in vehicle miles of travel (VMT) since 2000, carry the greatest share of commercial trucks, have the largest share of pavement in poor condition and bridges in poor/structurally deficient condition, and have the highest fatality rate. Data for all states can be found in the Appendix.

According to the TRB report, the Interstate system has a persistent and growing backlog of physical and operational deficiencies as a result of age, heavy use and deferred reinvestment, and is in need of major reconstruction and modernization. The TRB report concludes that annual investment in the Interstate Highway System should be increased approximately two-and-a-half times, from $23 billion in 2018 to $57 billion annually over the next 20 years.

The report released by TRIP confirms what American businesses experience every day — our Interstate highway system, which was once the envy of the world, is in serious need of modernization,” said Ed Mortimer, vice president of transportation infrastructure, U.S. Chamber of Commerce. “Commitment to modernization must be shared by federal, state and local leaders as well as the private sector. The Interstate system plays a key national role in economic success and quality of life for every American, and we continue to urge bipartisan solutions to address this critical issue.”

The TRIP report found that since 2000, travel on the Interstate system, the importance of which has been heightened during the COVID-19 pandemic, has increased at a rate nearly triple that at which new lane capacity is being added. As a result, 47 percent of urban Interstate highways are considered congested during peak hours. Travel by combination trucks on the Interstate increased 45 percent from 2000 to 2018, nearly double the 25 percent rate of travel growth for all vehicle travel during the same period.

“Carrying more than half of truck travel, the Interstate Highway System is critical to the nation’s supply chain. With $75 billion in cost added to freight transportation each year and 67 million tons of carbon dioxide from trucks released into the air due to highway congestion, the United States cannot afford to wait any longer to make the investments necessary to address systemic and growing problems stemming from decades of neglect,” said Chris Spear, president and CEO of the American Trucking Associations. “It is past time for elected officials to provide sufficient and sustainable funding for Interstate highway improvements.”

The design of the Interstate – which includes a separation from other roads and rail lines, a minimum of four lanes, paved shoulders and median barriers – makes it more than twice as safe to travel on as all other roadways. The
fatality rate per 100 million vehicle miles of travel on the Interstate in 2018 was 0.58, compared to 1.32 on non-Interstate routes. TRIP estimates that additional safety features on the Interstate Highway System saved 5,930 lives in 2018.

“A safe and well-maintained Interstate Highway System can strengthen America’s economy, enhance personal mobility and facilitate more efficient movement of goods, but the future of this network could be in jeopardy without increased federal investment,” said Kathleen Bower, AAA senior vice president of public affairs and international relations. “All states benefit from a modern, accessible Interstate Highway System. AAA urges Congress and the current administration to prioritize transportation investments to ensure safe, efficient and reliable mobility across the United States.”

TRIP’s report finds that while pavement smoothness on most segments of the Interstate system is acceptable, the crumbling foundations of most highway segments need to be reconstructed, and that continued resurfacing rather than addressing underlying foundational issues provides diminishing returns and results in shorter periods of pavement smoothness. As the aging system’s foundations continue to deteriorate, most Interstate highways, bridges and interchanges will need to be rebuilt or replaced. According to the TRIP report, pavements on 11 percent of Interstate highways are in poor or mediocre condition. More than one quarter – 27 percent – of Interstate bridges are in need of repair or replacement.

Restoring and upgrading the Interstate Highway System to meet the nation’s 21st Century transportation needs will require strong federal leadership and a robust federal-state partnership to reestablish the Interstate Highway System as the nation’s premier transportation network. The current federal surface transportation program, Fixing America’s Surface Transportation (FAST Act), the primary source of Interstate highway funding, expires on September 30, 2020, and the reauthorization of a new long-term, adequately and reliably funded long-term federal program will be needed to ensure that a strong federal program supports the restoration of the Interstate system.

“With the expiration of the FAST Act rapidly approaching, this report reaffirms how critical it is for lawmakers to prioritize reauthorizing a long-term, fully funded federal highway program this year,” said Rod Schrader, chairman and CEO of Komatsu’s North American operations and chair of the Association of Equipment Manufacturers CE Sector. “Meeting the critical equipment and supply needs of essential industries including construction and agriculture requires a dependable, modernized national transportation network. Equipment manufacturers are working hard to keep these vital industries properly supplied in the midst of COVID-19 and we need lawmakers to do their part to support these essential supply chains now and for the long haul.”

The ability of states to invest in Interstate highway repairs and improvements will be hampered by the tremendous decrease in vehicle travel that has occurred due to the COVID-19 pandemic, which is estimated to reduce state transportation revenues by at least 30 percent – approximately $50 billion – over the next 18 months.

Based on the findings of the TRB Interstate report, TRIP has provided a set of recommendations for the restoration of the Interstate Highway System, which...
includes: the foundational reconstruction of Interstate highways, bridges and interchanges; improvement to roadway safety features; system right-sizing, including upgrading of some roadway corridors to Interstate standards; adding needed additional highway capacity on existing routes; adding additional corridors; and, modifying some urban segments to maintain connectivity while remediating economic and social disruption.

“The long-term vision that helped establish the current Interstate system nearly 65 years ago is needed again today,” said Dave Kearby, TRIP’s executive director. “In order to rebuild the nation’s economy, maintain personal and commercial mobility, and improve quality of life, adequate transportation investment and a sustainable, long-term funding source for the federal surface transportation program must remain a priority.”

Executive Summary

RESTORING THE INTERSTATE HIGHWAY SYSTEM: Meeting America’s Transportation Needs with a Reliable, Safe & Well-Maintained National Highway Network

At sixty-four years old, an age at which many Americans are approaching Medicare eligibility and reduced workloads, the Interstate Highway System is deteriorating. Its traffic load of cars and trucks continues to increase, and the system lacks an adequate long-term care plan.

The Interstate Highway System remains the workhorse of the U.S. transportation system: heavily traveled and providing the most important link in the nation’s supply chain, and the primary connection between and within urban communities. The importance of the Interstate Highway System and the reliable movement of goods it provides has been heightened during the response to the COVID-19 pandemic. But America’s Interstate highways are wearing out and showing signs of their advanced age, often heavily congested, and in need of significant reconstruction, modernization and expansion.

In 2015, as part of the Fixing America’s Surface Transportation (FAST) Act, the U.S. Congress asked the Transportation Research Board (TRB), a division of the National Academies of Sciences, Engineering and Medicine, to conduct a study to determine actions needed to upgrade and restore the Interstate Highway System to fulfill its role of safely and efficiently meeting the nation’s future critical personal, commercial and military travel needs. In 2019, the TRB provided Congress with a report that found the nation’s Interstates are heavily congested and aging, with large portions of the system in need of major reconstruction and modernization. The report found that addressing the needs of the Interstate Highway System will require more than a doubling of current investment to adequately improve the system’s condition, reliability and safety, and that the restoration of the nation’s Interstate Highway System should be based on strong federal leadership of a collaborative effort with the states.

TRIP’s Restoring the Interstate Highway System report provides the latest information on the Interstate system, including pavement conditions, bridge conditions, travel trends, traffic congestion levels, truck use, and traffic safety. It reviews the findings of the TRB Interstate report and concludes with recommended actions—based on the findings of the TRB report—to ensure that the system is able to meet the nation’s transportation needs.

TRB INTERSTATE HIGHWAY SYSTEM REPORT REQUESTED BY CONGRESS

In 2015, as part of the Fixing America’s Surface Transportation (FAST) Act, the U.S. Congress requested a report evaluating the condition of the Interstate Highway System and providing recommendations on actions required to restore and upgrade the System to meet the growing and shifting transportation demands of the 21st Century. The report was conducted by the Transportation Research Board (TRB), a division of the National Academies of Sciences, Engineering and Medicine. The findings of the TRB report, released in 2019, include:

- The Interstate Highway System has a persistent and growing backlog of physical and operational deficiencies as a result of age, heavy use and deferred reinvestment, and is in need of major reconstruction and modernization.
- Most roadway segments of the Interstate Highway System retain their original underlying foundations and need to be completely rebuilt from the subbase up.
- The repeated resurfacing of Interstate highways is not addressing the deterioration of roadway subbases. Repeated resurfacing—rather than addressing underlying foundational issues—provides diminishing returns as additional resurfacing results in increasingly shorter periods of pavement smoothness and is likely to result in higher lifecycle costs than periodic reconstruction.
- The modernization of the Interstate Highway System needs to include the following: reconstruction of the majority of Interstate highways and bridges, including their foundations; the upgrade of most interchanges to improve their function and safety; the addition of capacity along existing corridors, the construction of new routes and the conversion of some existing routes to Interstate standards; the modification of some urban segments to maintain connectivity while remediating economic and social disruption; and, further improvement of highway safety features.
- To address the physical and operational deficiencies identified in the TRB report, annual investment in the Interstate Highway System should be increased by approximately two-and-a-half times, from its current level of $23 billion in 2018 to $57 billion annually over the next 20 years.
- The restoration of the nation’s Interstate Highway System will require strong federal leadership and a robust federal-state partnership.

INTERSTATE USE AND CHARACTERISTICS

The Dwight D. Eisenhower National System of Interstate and Defense Highways, which has been called the most ambitious public works project built since the Roman Empire, is the most critical link in the nation’s transportation system.

- The Interstate Highway System, which includes 2.6 percent of all roadway lane miles in the U.S., carries 26 percent of the nation’s vehicle travel.
- Since funding of the Interstate system was approved in 1956 to 2018, annual vehicle miles of travel (VMT) in the U.S. increased by 418 percent, from 626 billion miles driven, to approximately 3.2 trillion miles driven.
- From 1956 to 2018, the number of vehicles in the nation increased by 357 percent, from 65 million vehicles to 274 million vehicles. The nation’s population increased by 95 percent, from 168 million to 327 million during this time.

INTERSTATE HISTORY

The need for a transcontinental highway system in the U.S. was recognized as early as 1919, and an initial Interstate plan was completed in the late 1930s. But it was not until Congress approved a suitable funding mechanism in 1956 that the Interstate Highway System became a reality.

- In 1919, Lieutenant Dwight D. Eisenhower participated in the U.S. Army’s first transcontinental motor convoy, from Washington, DC, to San Francisco, California. The trip took 62 days, largely due to inadequate roads and highways.
- In 1954, President Eisenhower appointed a committee to draft a proposal to fund a national system of Interstate Highways. The initial proposal, subsequently dismissed by Congress, called for financing a national Interstate system through bond financing.
Nationwide construction of the Interstate Highway System began in 1956 following the approval of the Federal-Aid Highway Act of 1956. Some segments of urban and regional highways built prior to 1956 were later incorporated into the Interstate Highway System.

The Federal-Aid Highway Act of 1956, signed into law by President Dwight Eisenhower on June 29, 1956, called for the construction of a 41,000-mile system of Interstate highways. The Act called for the Interstates to be paid for by taxes on motorists, such as the federal motor fuel tax, with the federal government paying 90 percent of the initial construction costs.

The federal motor fuel tax was set at three cents-per-gallon in 1956 and is now 18.4 cents-per-gallon.

Revenue collected from the 18.4 cents-per-gallon federal motor fuel tax and the 24.4 cents-per-gallon federal diesel fuel tax are the primary sources of funding for the federal Highway Trust Fund, which distributes funds to state and local governments for highway and bridge repairs as well as other surface transportation improvements, including public transit, pedestrian and bicycling facilities.

INTERSTATE ROAD AND BRIDGE CONDITIONS

While pavement smoothness on most segments of the Interstate system is acceptable, approximately one quarter of Interstate bridges are in need of repair. As the aging system's foundations continue to deteriorate, most Interstate highways, bridges and interchanges will need to be rebuilt or replaced.

Pavements on 11 percent of Interstate highways are in poor or mediocre condition, with three percent rated in poor condition and eight percent rated in mediocre condition. Another nine percent of Interstate pavements are in fair condition and the remaining 79 percent are in good condition. The chart below shows the states with the greatest share of their Interstate highways with pavements in poor condition. Data for all states can be found in the Appendix.

An analysis of U.S. Department of Transportation’s National Bridge Inventory data indicates that more than one quarter – 27 percent – of Interstate bridges (15,709 of 57,741) are in need of repair or replacement.

The intended lifespan of many of the nation’s Interstate bridges at the time of their construction is 50 years, though newer bridges are often built with longer-lasting materials and techniques that allow for a longer intended lifespan. Older bridges often need significant repairs or rehabilitation or may need to be replaced to continue to provide adequate service.

The average age of the nation’s Interstate bridges is 45 years. Fifty-four percent of the nation’s Interstate bridges are at least 50 years old. The chart below shows states with the largest share of Interstate bridges 50 years old or older. Data for all states can be found in the Appendix.

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The chart below shows states with the greatest increase in vehicle miles of travel on their Interstate highways from 2000 to
The chart below shows the states with the busiest urban Interstates, as measured by average daily traffic per lane mile. Data for all states can be found in the Appendix.

The features that make Interstates safer than other roads include a separation from other roads and rail lines, a minimum of four-lanes, gentler curves, paved shoulders, median barriers, and rumble strips to warn drivers when they are leaving the roadway.

Travel on the nation’s Interstate highways is more than twice as safe as travel on all other roadways. The fatality rate per 100 million vehicle miles of travel on the Interstate system in 2018 was 0.58, compared to 1.32 on non-Interstate routes.

The chart below details states with the highest traffic fatality rates in 2018 on their Interstate highways and the fatality rate on all other roads in those states. Data for all states can be found in the Appendix.

TRIP estimates that the Interstate Highway System saved 5,930 lives in 2018, based on an estimate of the number of additional fatalities that would have occurred had Interstate traffic been carried by other major roadways, which often have higher traffic fatality rates and may lack the safety features common to Interstate routes.

Based on TRIP estimates, the chart below shows the states where the most lives were saved in 2018 due to the increased traffic safety provided by the Interstate Highway System. Data for all states can be found in the Appendix.

The Interstate system carried 53 percent of all large commercial truck travel in the U.S. in 2018.

Travel by combination trucks on the Interstate Highway System increased 45 percent from 2000 to 2018, nearly double the 25 percent rate of growth for all vehicle travel during the same period.

Travel by combination trucks, which are the large trucks that carry the majority of freight shipped in the U.S., accounted for 11 percent of all vehicle miles of travel on the Interstate Highway System in 2018.

The chart below shows the states with the greatest share of Interstate vehicle travel by combination trucks. Data for all states can be found in the Appendix.
Every year, $16.8 trillion in goods are shipped from sites in the U.S.

Seventy-two percent of the goods shipped annually from sites in the U.S. are carried by trucks and another 14 percent are carried by courier services, which use trucks for part of the deliveries.

The completion of the vast majority of the Interstate system by the 1980s, and the deregulation of the U.S. trucking industry, resulted in a significant improvement in the competitiveness of U.S. business. The cost of moving freight, as measured by U.S. business logistics costs, dropped from 16 percent of U.S. Gross Domestic Product (GDP) in 1980 to eight percent in 2018.

The TRB report found that U.S. counties either on an Interstate highway or within 20 miles of an Interstate are anticipated to grow in population through 2060 at a rate approximately seven times greater than counties that are at least 20 miles from an Interstate highway (36 percent versus five percent).

The Interstate Highway System has reduced travel times between destinations throughout the U.S. The improved mobility provided by the Interstate Highway System has given Americans greater choices about where they live, work, shop and spend their leisure time.

Forty-nine of the 50 top truck bottlenecks identified by the American Transportation Research Institute (ATRI) in its 2020 annual list of the nation’s top 100 truck bottlenecks are on Interstate Highways. The top 20 truck bottlenecks are listed below, with all 50 included in the Appendix.

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**INTERSTATE FUNDING CHALLENGES**

The U.S. Department of Transportation (USDOT) has determined that the nation faces a significant backlog in needed Interstate highway repairs and improvements.

- The current backlog of needed improvements on the nation’s Interstate Highway System is estimated by the USDOT to be $123 billion.
- The backlog on the nation’s Interstate Highway System includes $54 billion needed to improve pavement conditions, $37 billion to improve bridges and $33 billion for needed system expansion and enhancement.
- The ability of states to invest in Interstate highway repairs and improvements may be hampered by the tremendous decrease in vehicle travel that has occurred due to the COVID-19 pandemic, which the American Association of State Highway and Transportation Officials estimates will reduce state transportation revenues by at least 30 percent – approximately $50 billion – over the next 18 months.
- The primary source of revenue for the Interstate Highway System is the federal surface transportation program, which expires on September 30, 2020. The program does not have a long-term and sustainable revenue source.
- 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.
- Revenue collected from the 18.4 cents-per-gallon federal motor fuel tax and the 24.4 cents-per-gallon federal diesel fuel tax are the primary sources of funding for the federal Highway Trust Fund, which distributes funds to state and local governments for highway and bridge repairs and other surface transportation improvements, including public transit, pedestrian and bicycling facilities.

**RECOMMENDATIONS FOR RESTORING THE INTERSTATE HIGHWAY SYSTEM**

The restoration and upgrading of the Interstate Highway System to meet 21st Century transportation needs will require strong federal leadership and a robust federal-state partnership to reestablish the Interstate Highway System as the nation’s premier transportation network. The TRB Interstate report notes that “the scale and scope of the Interstate reinvestment imperative is daunting.”

- The following recommendations, based on the findings and recommendations of the