

America's Top Five Transportation Headaches and Their Remedies

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America has a transportation headache. Throughout the country, roads and bridges are deteriorating, highways are congested, buses and rail cars are overcrowded and many roadways lack desirable safety features.

The good news is that we know how to relieve the nation's transportation headaches. And by offering relief to American travelers by improving the condition, safety and efficiency of the nation's roads, bridges, highways and public transit systems, relief will also be offered to America's struggling economy.

This report, presented by the American Association of State Highway and Transportation Officials (AASHTO) and TRIP, identifies America's top five transportation headaches and offers five remedies for relief. Addressing the nation's transportation headaches will not only improve America's transportation system, but will also provide a significant short- and long-term boost to the nation's economic recovery.

Top Five Transportation Headaches

Transportation Headache Number One: *Aging Bridges, Crumbling Pavements and Deteriorating Transit*

Deteriorated and aging pavements provide American drivers with a rough ride, contributing to increased vehicle maintenance costs, particularly for urban motorists, as urban pavement deficiency rates are significantly higher than in non-urban areas.

In 2007, one-quarter of major roadways in the nation's major metropolitan areas – interstates, freeways and other principal arterial routes – had pavements that were rated in poor condition and provided an unacceptably rough ride to motorists. Overall, 12 percent of America's major roadways are in poor condition.

Approximately one in four of the nation's bridges are either in need of significant repair or are too narrow to handle today's traffic. As the bulk of the nation's bridges approach 50 years in service, many will require costly reconstruction or replacement to remain open.

In 2008 12 percent of the nation's bridges had significant deterioration of their deck supports or other major components. Thirteen percent of the nation's bridges no longer meet current highway standards, often because of narrow lanes, inadequate clearances or poor alignment with the approaching roadway. The average age of the nation's bridges is 43 years. Most bridges need significant repairs by the time they reach 50 years of age.

The nation's buses and rail cars are aging and many need replacement. Fifty-nine percent of the nation's transit buses (40-foot or longer) have either exceeded their service life or will do so within the next six years. Half of all of the nation's transit rail cars have either exceeded their service life or will do so within the next six years.

Transportation Headache Number Two: *Congested Roads, Highways and Transit Systems*

Congestion is increasing across the nation, and "rush hour" is getting longer, slowing commuting and commerce, not only in the nation's largest urban areas, but also in mid- and smaller-size cities.

The average rush hour commuter spends an additional 38 hours annually - an average work week - stuck in traffic. This figure is up from 14 hours in 1982. The length of "rush hour" doubled in the nation's urban areas from three hours in 1982 to six hours in 2005. In 1982, Los Angeles was the only urban area in the U.S. where rush-hour commuters lost 40 or more hours per year due to traffic congestion. Today, 28 urban areas experience 40 or more hours of delay as a result of traffic congestion.

Almost one half of the nation's urban Interstates, highways or freeways are considered congested, because they carry a level of traffic that is likely to result in significant delays during peak travel hours.

Increasing traffic congestion is costing the nation's freight transportation network nearly \$8 billion per year, reducing the productivity of the U.S. economy. Trucking is the backbone of the nation's freight transportation system, transporting virtually everything we eat, drink or buy. Higher transportation costs mean higher prices for consumers.

The nation's freight system (all modes) transported approximately 15 billion in goods in 2005, nearly 80 percent of which moved by trucks on the roads. The share of the nation's gross domestic product (GDP) spent on freight transportation is increasing, signaling a reduction in transport efficiency. The share of U.S. GDP spent on logistics increased from 8.6 percent in 2003 to 10.1 percent in 2007. A Federal Highway Administration report found that freight highway bottlenecks are causing 243 million hours of freight delays annually, resulting in annual delay costs of \$7.8 billion per year. The freight tonnage moved in the U.S. is forecast to nearly double between 2005 and 2035, with trucks taking 84 percent of the growth.

The nation's buses, rail cars and transit facilities are increasingly crowded since increased use has not been matched with adequate funding. Eighty-five percent of transit systems report capacity constraints on portions of their system. Almost four out of ten of these transit agencies report that they are now turning away passengers. Virtually all transit agencies (91 percent) are constrained in their ability to add service, with two-thirds reporting insufficient revenue or budget to operate additional service as the most significant constraint.

Transportation Headache Number Three: *Traffic Fatalities and Injuries*

Although the number of traffic fatalities in 2008 is likely to be the lowest in nearly half a century, traffic accidents remain a significant source of deaths and major injuries. Some 41,000 lives were lost on highways in 2007.

Several factors are associated with vehicle crashes that result in fatalities, including vehicle and roadway characteristics and driver behavior. Highway safety experts estimate that roadway characteristics such as the number of lanes, whether traffic traveling in opposite directions is separated, lane widths and intersection design are a factor in approximately one-third of all fatal traffic accidents.

Highway improvements such as adding turn lanes, removing or shielding obstacles, adding medians, widening lanes, widening and paving shoulders, improving intersection layouts, providing better road markings, and installing or upgrading traffic signals, have been found to reduce the severity of serious traffic accidents.

Transportation Headache Number Four: *Demand is Stressing the System*

Despite the impacts of the economic downturn, travel on the nation's roadways and public transit systems has increased significantly since 1990 and is expected to continue to increase as population and economic activity grow. Increased travel results in additional wear and tear on our nation's roads, highways, bridges and public transit systems.

The U.S. population increased 41 percent from 1990 to 2008, and is expected to grow another 19 percent by 2030. Vehicle travel has grown along with population, increasing 41 percent from 1990 to 2007 – jumping from approximately 2.1 trillion vehicle miles traveled (VMT) in 1990 to approximately 3 trillion VMT in 2007. Even with soaring fuel prices for much of 2008, motorists still logged 2.9 trillion miles on the nation's highways. By 2030, vehicle travel in the U.S. is projected to increase another 38 percent, to approximately 4.2 trillion vehicle miles of travel, based on a Federal Highway Administration forecast of an annual VMT growth of 1.4 percent.

Passenger miles of travel on the nation's public transit systems increased by 41 percent between 1995 and 2008.

Transportation Headache Number Five: *Everyone's Costs Are Rising*

Roads and highways that are congested, deficient, or lack desirable safety features cost Americans \$249 billion annually in the form of lost lives, time and money.

The average urban motorist in the U.S. is paying \$413 annually in additional vehicle operating costs as a result of driving on roads in need of repair. The total cost nationally of driving on substandard roads is estimated at \$65 billion annually. Driving on roads in rough condition increases consumer costs by accelerating vehicle deterioration, increasing

the frequency of needed maintenance and increasing fuel consumption and tire wear.

The Texas Transportation Institute reported in its 2007 Urban Mobility Report that the cost of traffic congestion in lost time and wasted fuel is \$78 billion annually. The cost of fatal and injury-causing traffic accidents in which roadway design was a factor is approximately \$106 billion per year. These costs include medical services, emergency services, police services, lost productivity and property damage.

Partly due to increased foreign consumption, the cost of materials used for road, highway and bridge construction has increased dramatically in recent years, limiting the ability of local and state governments to fund needed road repairs and improvements. Over the five-year period from November 2003 to November 2008, the average cost of materials used for highway and bridge construction – including asphalt, concrete, steel, lumber and diesel – increased by 55 percent. While material costs are rising, federal, state and local investment in roads, highways, bridges and public transit are falling far short of levels needed to improve the condition and effectiveness of the nation's highway, bridge and transit systems.

In 2006 America invested \$92 billion in highway and transit capital improvements. The congressionally appointed National Surface Transportation Policy and Revenue Study Commission found in its 2008 report that annual investment would need to increase to between \$228 and \$272 billion annually to significantly improve the highway, transit, passenger rail and freight system.

Twenty states have cut \$7.6 billion from their fiscal year 2009 budgets, and 30 states have identified additional shortfalls totaling more than \$30 billion. Twenty-five states have also identified shortfalls of \$60 billion for FY 2010. In many cases, these budget shortfalls are forcing states to delay billions of dollars in planned transportation improvements.

Top Five Transportation Headache Remedies

Although there are significant challenges in providing Americans with a safe, well-maintained and efficient surface transportation system, potential sources of relief from transportation headaches are available.

Transportation Headache Remedy Number One: *Begin work immediately on "ready-to-go" transportation projects.*

Transportation officials have identified numerous "ready-to-go" projects that could start immediately to improve the condition and performance of the nation's roads, highways, bridges and public transit systems. These projects would provide smoother pavement conditions, repair deficient bridges, improve transit service, relieve traffic congestion and increase traffic safety.

The American Association of State Highway and Transportation Officials (AASHTO) found in a 2008 survey that state transportation departments have 5,280 highway and bridge projects worth \$64 billion that can be under contract within 180 days of the approval of additional funding. The American Public Transit Association found in a recent survey that 736 transit projects totaling \$12.2 billion are ready to begin within 90 days if funding is made available.

Transportation Headache Remedy Number Two: *Boost transportation funding to stimulate economic growth in the short, medium and long-term.*

The U.S. construction sector has been particularly hard hit by unemployment. Swift implementation of a significant program of transportation improvements can support good-paying jobs and boost economic productivity.

In December 2008, the national unemployment rate reached 7.2 percent overall and 15.3 percent in the construction sector. Funding for transportation projects provides an immediate economic boost in related industries as these industries immediately start to increase production to meet the anticipated additional demand created by transportation spending. These related industries include mining, energy and equipment and vehicle manufacturing that provide materials or products related to surface transportation repairs or improvements.

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 in non-construction related sectors of the economy. If \$1 billion in federal highway spending is combined with \$250 million in state funding, the combined investment would support 34,779 jobs.

Transportation projects that reduce traffic congestion levels can also have a significant positive impact on long-term job creation by improving the nation's productivity. A Transportation Research Board report found that worsening traffic congestion will likely reduce the efficiency and competitiveness of some U.S. businesses. The report also found that some U.S. businesses are likely to respond to increasing congestion by moving some facilities to less-congested parts of the U.S. or to other countries.

Transportation Headache Remedy Number Three: *Recognize that the benefits of surface transportation improvements outweigh the costs.*

The U.S. Department of Transportation estimates that every dollar invested in the nation's highway system yields \$5.69 in economic benefits in reduced delays, improved safety, reduced emissions, lower vehicle operating costs and reduced maintenance costs.

Every dollar invested in the nation's public transit system has been found to provide \$6 in benefits in the form of time savings, parking and travel time savings, avoided job loss, avoided welfare payments, avoided vehicle accidents, avoided congestion and pollution, increased central city labor opportunities, increased mobility for people without access to private vehicles, and improved educational opportunities.

Transportation Headache Remedy Number Four: *Use innovation and advanced technology to build highway and bridge improvements that last longer, are environmentally savvy, and take less time.*

Transportation agencies and the private sector have made significant progress in developing highway and bridge designs, construction

techniques and materials that last longer and require less time for repairs.

Making early initial repairs to pavement surfaces while they are still in good condition reduces the cost of keeping roads smooth by delaying the need for costly reconstruction. The use of thicker pavements and more durable designs and materials increase the life span of road and highway surfaces and delay the need for significant repairs. These new pavements include high performance concrete pavements and improved hot mix asphalt pavements.

Transportation agencies are increasingly using innovative designs, materials and construction methods for bridge construction and repair to insure that bridges last longer and to reduce construction times and traffic disruptions.

Transportation Headache Remedy Number Five: *Make a down-payment on the nation's transportation needs immediately, and address long-term improvements in the near future.*

Immediate transportation infrastructure investment can play a significant role in hastening the nation's economic recovery. In addition, crafting a new long-range federal surface transportation program to replace the current program, which expires on September 30, 2009, provides an opportunity to set the nation on a course to achieving a safe, reliable and well-maintained system of roads, highways, bridges and public transit. Many comprehensive proposals have already been set forth that offer new ideas to meet the nation's transportation needs.

The Congressionally mandated National Surface Transportation Policy and Revenue Study Commission released a long-term plan to ensure that the nation's surface transportation system meets America's future mobility needs and that it remains the preeminent surface transportation system in the world, one that is well-maintained, safe and reliable.

The Commission calls for allocating funding through outcome-based, performance-driven programs supported by cost/benefit evaluations rather than political earmarking. The Commission recommends consolidating the more than 100 current transportation funding programs into ten programs focused on key areas of national interest, including congestion relief, preservation of roads and bridges, improved freight transportation, improved roadway safety, improved rural access, improved environmental stewardship, and the development of environmentally-friendly energy sources.

AASHTO has also developed a plan for a future federal surface transportation program that would be accountable for results, would make investments based on community needs and would deliver projects on time and on budget.

AASHTO proposes that the federal surface transportation program be based on goals for meeting national objectives, be based on state-driven performance measures and be focused on six objectives of national interest: preservation and renewal, interstate commerce, safety, congestion reduction and connectivity for urban and rural areas, system operations and environmental protection.