



REVITALIZING TRANSPORTATION DECISION MAKING AND INVESTMENT

Sofia A. Virtanen
Editor

Transportation Issues, Policies and R&D

NOVA

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PREFACE

Americans have long enjoyed the benefits of what is without a doubt the world's safest, most efficient, effective, and extensive transportation network ever constructed. Everyday these transit systems move millions of people to work and home again. It is a system that helps keep shipping costs low, while enabling Americans to live where and how they want. Unfortunately, it is also a system at risk. Over the past few decades, focus on the system has been lost and now money is being spread over numerous programs, which causes a dilution of federal funds taxpayers invest each year. This new book presents and discusses the reasons why a better plan must be introduced in order to better transmit services and create a stronger economy.

Chapter 1 – This is a as statement of Katherine Siggerud, Managing Director, Physical Infrastructure Issues, before the Subcommittee on Transportation Housing and Urban Development, and Related Agencies; Committee on Appropriations, U.S. House of Representatives.

Chapter 2 - Congestion is one of the single largest threats to our economic prosperity and way of life. Whether it takes the form of trucks stalled in traffic, cargo stuck at overwhelmed seaports, or airplanes circling over crowded airports, congestion is costing America an estimated \$200 billion a year.

Each year, Americans lose 3.7 billion hours and 2.3 billion gallons of fuel sitting in traffic jams and waste \$9.4 billion as a result of airline delays. Worse, congestion is affecting the quality of Americans lives by robbing them of time that could be spent with families and friends.

Congestion is not a fact of life. It is not a scientific mystery, nor is it an uncontrollable force. Congestion results from poor policy choices and a failure to separate solutions that are effective from those that are not. President Bush and I recognize the challenge that congestion poses and the opportunity that

we have to do something about it. That is why we have launched a new, national initiative to reduce congestion in America.

This plan, the *National Strategy to Reduce Congestion on America's Transportation Network*, provides a blueprint for federal, state and local officials to follow as we work together to tackle this growing problem. Over the coming months, we will focus the Department's resources, funding, staff and technology to cut traffic jams, relieve freight bottlenecks, and reduce flight delays. We must not be afraid to embrace new solutions if we are going to make any meaningful progress in reducing congestion.

The plan itself calls upon the leadership of the Department to establish Urban Partnership Agreements with selected communities and encourages states to pass legislation giving the private sector a broader role in investing in transportation. It calls for more widespread deployment of new technologies and practices that end traffic tie ups, designates and funds new "corridors of the future," takes on port and border congestion, and expands aviation capacity.

The bottom line is that every person and every business in American has a vested interest in reducing congestion. Congestion kills time, wastes fuel, and costs money. But we don't have to let traffic delays put our lives on hold any longer. We have the tools, the technology, and the plan to make today's congestion a thing of the past.

Chapter 3 - Our country is at a transportation policy crossroads. For the first time since the creation of the Interstate Highway System, we have a promising opportunity to come together and completely re-assess our approach to financing and managing surface transportation systems. For too long, we have tolerated exploding highway congestion, unsustainable revenue mechanisms, and spending decisions based on political influence as opposed to merit.

The most pressing transportation problem of the 21st Century is not connectivity, as in the second half of the 20th Century, or connecting farms to markets, as in the first half. Today, the most important challenge is the consistent, precipitous decline in transportation system performance and the increased politicization of transportation investment decisions at a time when the efficiency of our transportation networks is more critical than ever to our prosperity.

Now, thanks to technological breakthroughs, changing public opinion, and highly successful real-world demonstrations around the world, it is clear that a new path is imminently achievable if we have the political will to forge it. That path must start with an honest assessment of how we pay for

transportation, not simply how much (our current focus). In fact, our continued transportation financing challenges are in many ways a symptom of the following underlying policy failures.

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Chapter 1

**TRANSPORTATION PROGRAMS -
CHALLENGES FACING THE DEPARTMENT OF
TRANSPORTATION AND CONGRESS**

Katherine Siggerud

WHY GAO DID THIS STUDY

A safe, efficient, and convenient transportation system is integral to the health of our economy and quality of life. Our nation's vast transportation system of airways, railways, roads, transit systems, and waterways has served this need, yet is under considerable pressure due to increasing congestion and costs to maintain and improve the system. Calls for increased investment come at a time when traditional funding for transportation projects is increasingly strained. The authorizing legislation supporting transportation programs will soon expire.

The Department of Transportation (DOT) implements national transportation policy and administers most federal transportation programs. DOT received funds for transportation infrastructure projects through the American Recovery and Reinvestment Act of 2009 to aid in economic recovery. DOT also requested \$72.5 billion to carry out its activities for fiscal year 2010.

This statement presents GAO's views on major challenges facing DOT and Congress as they work to administer recovery funds and reauthorize

surface transportation and aviation programs. It is based on work GAO has completed over the last several years. GAO has made recommendations to DOT to improve transportation programs; the agency has generally agreed with these recommendations. To supplement this existing work, GAO obtained information on the recovery funds provided to DOT.

WHAT GAO FOUND

The Department of Transportation received about \$48 billion of recovery funds for investments in transportation infrastructure from the American Recovery and Reinvestment Act of 2009. As with other executive agencies, DOT is faced with the challenges of using these funds in ways that will aid economic recovery, making wise funding choices while spending the money quickly, and ensuring accountability for results. GAO will report to Congress bimonthly on how states and localities use the recovery funds received from DOT.

DOT and Congress will also be faced with numerous challenges as they work to reauthorize surface transportation and aviation programs.

- ***Funding the nation's transportation system.*** Revenues to support the Highway Trust Fund are not keeping pace with spending levels and the Highway Account was nearly depleted last summer. In addition, the excise taxes that fund Airport and Airway Trust Fund revenues have been lower than previously forecasted, and forecasts of future revenues have declined. Declining revenues in both trust funds may adversely affect DOT's ability to continue to fund surface transportation and aviation programs at levels previously assumed.
- ***Improving transportation safety.*** Although the number of traffic crashes and the associated fatality rate has decreased over the last 10 years, the number of fatalities has remained at about 42,000 annually. The continued high level of fatalities and difficulties experienced by states in implementing grant programs raise issues for Congress to consider in restructuring these programs during reauthorization. While the U.S. commercial aviation industry is among the safest in the world, accidents can have catastrophic consequences. The lack of

performance measures and complete data limit DOT's ability to improve safety and manage safety risks.

- ***Improving transportation mobility.*** Despite large increases in transportation spending, congestion on our nation's highways has increased over the last 10 years and increased demand will further strain the system. Flight delays and cancellations at congested airports continue to plague the U.S. aviation system. For example, almost one in four flights either arrived late or was canceled in 2008, and the average flight delay increased despite a 6 percent annual decline in the total number of operations through December 2008. Congestion poses serious economic as well as environmental and health concerns for the nation.
- ***Transforming the nation's air traffic control system.*** The air traffic control modernization program is technically complex and costly. The Federal Aviation Administration will need to accelerate the implementation of new and existing technologies, consider incentives for aircraft operators to acquire those technologies, and sustain the current system while transitioning to the new one, among other things.

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to participate in this hearing to discuss the challenges facing the Department of Transportation (DOT) and Congress as they work to aid economic recovery and address the reauthorization of the surface transportation and aviation programs. A safe, efficient, and convenient transportation system is critical to the nation's economy and affects the daily life of most Americans. However, this system is under pressure, and estimates to repair, replace, or upgrade aging infrastructure—as well as expand capacity to meet increased demand—top hundreds of billions of dollars. Calls for increased investment in transportation coincide with growing strains on traditional funding for transportation projects. For example, revenues to support the Highway Trust Fund are not keeping pace with spending levels, and the fund's Highway Account was nearly depleted last summer.¹ Similarly, excise tax revenues to support the Airport and Airway Trust Fund have been lower than previously forecasted, a trend which is likely to continue given the downturn in the economy.² The federal government's current financial condition and the nation's weakening economy will further strain funding sources for transportation projects.

DOT will immediately be faced with overseeing the distribution of economic stimulus funds that were provided in the American Recovery and Reinvestment Act of 2009 to states and localities.³ Congress and DOT will also soon face the challenge of allocating federal resources to meet demands for a wide range of surface transportation infrastructure projects, as the current authorization of federal surface transportation programs expires at the end of fiscal year 2009. Furthermore, federal aviation programs have been operating under a series of funding extensions since the authorizing legislation expired at the end of fiscal year 2007. Timely reauthorization is critical to ensuring the continuity of the Federal Aviation Administration's (FAA) current programs and progress in transforming the nation's air traffic control system. DOT faces these challenges with few officials named or confirmed to appointed posts.

My statement is primarily based on work that we have completed over the past several years. (A list of related GAO products is included with this statement.) To supplement our existing work, we also obtained information on the American Recovery and Investment Act of 2009 and the President's budget for the Department of Transportation for fiscal year 2010.⁴

BACKGROUND

The safe, efficient, and convenient movement of people and goods depends on a vibrant transportation system. Our nation has built vast systems of roads, airways, railways, transit systems, pipelines, and waterways that facilitate commerce and improve our quality of life. However, these systems are under considerable strain due to increasing congestion and the costs of maintaining and improving the systems. This strain is expected to increase as the demand to move people and goods grows resulting from population growth, technological change, and the increased globalization of the economy.

DOT implements national transportation policy and administers most federal transportation programs. Its responsibilities are considerable and reflect the extraordinary scale, use, and impact of the nation's transportation systems. DOT has multiple missions—primarily focusing on mobility and safety—that are carried out by several operating administrations. (See table 1.) For fiscal year 2010, the President's budget requested \$72.5 billion to carry out these and other activities.

DOT carries out some activities directly, such as employing more than 15,000 air traffic controllers to coordinate air traffic. However, the vast

majority of the programs it supports are not under its direct control. Rather, the recipients of transportation funds, such as state departments of transportation, implement most transportation programs. For example, the Federal Highway Administration (FHWA) provides funds to state governments each year to improve roads and bridges and meet other transportation demands, but state and local governments decide which transportation projects have high priority within their political jurisdictions.

Table 1. Primary Missions of the Department of Transportation

DOT operating administration	Mission
Federal Highway Administration	Enhancing the quality and performance of the nation's highway system and intermodal connections
Federal Aviation Administration	Promoting the safety and efficiency of the national airspace system
Federal Transit Administration	Supporting locally planned and operated public mass transit systems
National Highway Traffic Safety Administration	Reducing motor vehicle crashes and their associated deaths and injuries
Federal Motor Carrier Safety Administration	Reducing commercial motor vehicle-related (large trucks and buses) fatalities and injuries
Federal Railroad Administration	Improving safety on the nation's rail systems and providing grants for intercity passenger rail activities
Pipeline and Hazardous Materials Safety Administration	Maintaining the safety and integrity of the nation's pipeline transportation system and the safety of transporting hazardous materials
Maritime Administration	Strengthening the nation's maritime transportation system, including infrastructure, industry, and labor

Source: DOT.

Note: This table does not include the Research and Innovative Technology Administration or the Saint Lawrence Seaway Development Corporation. In addition, the Surface Transportation Board, which has jurisdiction over such areas as railroad rate and service issues and rail restructuring transactions, is an economic regulatory agency that is decisionally independent but administratively affiliated with DOT.

We have previously reported that current surface transportation programs—authorized in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—do not effectively address the transportation challenges the nation faces. As a result,

we have called for a fundamental reexamination of the nation’s surface transportation programs to (1) have well-defined goals with direct links to an identified federal interest and federal role, (2) institute processes to make grantees more accountable by establishing more performance-based links between funding and program outcomes, (3) institute tools and approaches that emphasize the return on the federal investment, and (4) address the current imbalance between federal surface transportation revenues and spending.⁵

Table 2. 2009 Recovery Act Funds Provided to the Department of Transportation

Area	Uses	Amounts (dollars in billions)
Highway	Capital assistance to states and localities to restore, repair, and construct highways and passenger and freight rail transportation and port infrastructure	\$27.5
Intercity passenger rail	Capital assistance for high-speed rail, intercity passenger rail, and Amtrak	9.3
Transit	Capital assistance for transit projects	8.4
Supplemental discretionary awards ^a	Capital assistance to states and localities for capital improvements in surface transportation infrastructure	1.5
Aviation	Capital assistance to airports for improvements and for FAA facilities and equipment	1.3
Maritime	Capital assistance to small shipyards	0.1
Total		\$48.1

Source: GAO summary of information in the American Recovery and Reinvestment Act of 2009.

^a These funds are for investments in surface transportation infrastructure in addition to the other amounts listed in the table. The funds are to be awarded competitively for highway, bridge, public transportation, passenger and freight rail, and port infrastructure projects.

We have also called for a timely reauthorization of FAA programs that expired at the end of fiscal year 2007 and have continued under a series of funding extensions. Such short-term funding measures could delay key capital projects and may affect FAA’s current programs and progress toward the Next Generation Air Transportation System.

AIDING ECONOMIC RECOVERY AND ENSURING ACCOUNTABILITY FOR RECOVERY FUNDS' USE

Congress and the presidential administration have fashioned the American Recovery and Reinvestment Act of 2009 to help our nation respond to what is generally reported to be the worst economic crisis since the Great Depression. DOT received about \$48 billion of these funds for investments in transportation infrastructure—primarily for highways, passenger rail, and transit—mostly for use through fiscal year 2010. (See table 2.) As with other executive agencies, DOT now faces the challenges of using these funds in ways that aid economic recovery, making wise funding choices while spending the money quickly, and ensuring accountability for results.

The act largely provided for increased transportation funding through existing programs—such as the Federal-Aid Highways, the New Starts transit, and the Airport Improvement programs. Channeling funding through existing programs should allow DOT to jump start its spending of recovery funds. However, there is a need to balance the requirement in the recovery act to get funds out quickly to help turn around the economy with the equally powerful need to make sure that funds are spent wisely on infrastructure investments and are not subject to waste, fraud, and abuse.

We have reported on important design criteria for any economic stimulus package including that it be timely, temporary, and targeted.⁶ This is a difficult challenge for transportation infrastructure projects.⁷ First, they require lengthy planning and design periods. According to the Congressional Budget Office (CBO), even those projects that are “on the shelf” generally cannot be undertaken quickly enough to provide a timely stimulus to the economy.⁸

Second, spending on transportation infrastructure is generally not temporary because of the extended time frames needed to complete projects. Third, because of differences among states, it is challenging to target stimulus funding to areas with the greatest economic and infrastructure needs.

The act will substantially increase the federal investment in the nation's surface transportation system. However, the current federal approach to addressing the nation's surface transportation problems is not working well. Many existing surface transportation programs are not effective at addressing key challenges because goals are numerous and sometimes conflicting, roles are unclear, programs lack links to the performance of the transportation system or of the grantees, and programs in some areas do not use the best tools and approaches to ensure effective investment decisions and the best use of

federal dollars. In addition, evidence suggests that increased federal highway grants influence states and localities to substitute federal funds for state and local funds they otherwise would have spent on highways. In 2004, we estimated that states used roughly half of the increases in federal highway grants since 1982 to substitute for state and local highway funding, and that the rate of substitution increased during the 1990s.⁹ Our work has also shown that there is still room for improved oversight in surface transportation programs including the Federal-Aid Highway program. For example, we and the DOT Inspector General have each recommended that FHWA develop the capability to track and measure the costs of federally-aided projects over time.¹⁰

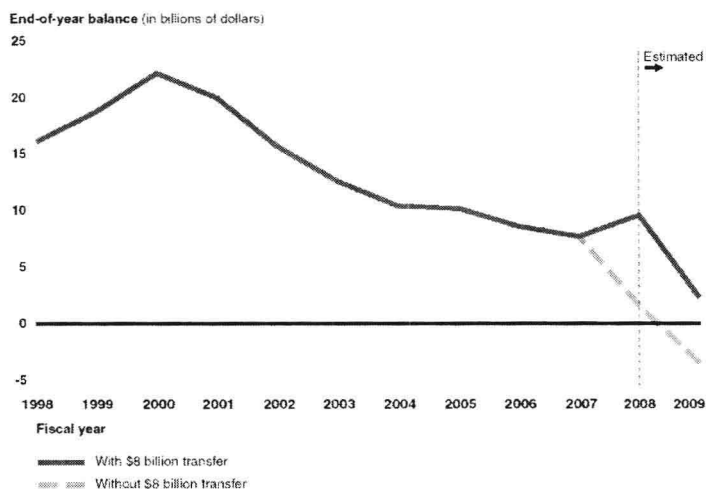
Among other things, the act gives our office the responsibility of reporting to Congress bimonthly on how selected states and localities are using the recovery funds. We will work with the department's Office of Inspector General and with the state and local audit community to coordinate our activities.¹¹ We also anticipate that committees of jurisdiction will request that we assess specific issues related to the department's use of recovery funds. We look forward to working with this subcommittee and others to meet Congress's needs.

ADDRESSING FUNDING, SAFETY, MOBILITY, AND MODERNIZATION CHALLENGES IN SURFACE TRANSPORTATION AND AVIATION REAUTHORIZATION EFFORTS

DOT and Congress will be faced with numerous challenges as they work to reauthorize the surface transportation and aviation programs. In particular, the department and Congress will need to address challenges in (1) ensuring that the nation's surface transportation and aviation systems have adequate funding, (2) improving safety, (3) improving mobility, and (4) transforming the nation's air traffic control system. Surface transportation program funding is one of the issues on our high-risk list.¹²

Funding the Nation's Transportation System

Revenues from motor fuels taxes and truck-related taxes to support the Highway Trust Fund—the primary source of funds for highway and transit—are not keeping pace with spending levels. This fact was made dramatically apparent last summer when the Highway Account within the trust fund was nearly depleted. The balance of the Highway Account has been declining in recent years because, as designed in SAFETEA-LU, outlays from the account exceed expected receipts over the authorization period. Specifically, when SAFETEA-LU was passed in 2005 estimated outlays from Highway Account programs exceeded estimated receipts by about \$10.4 billion. Based on these estimates, the Highway Account balance would have been drawn down from \$10.8 billion to about \$0.4 billion over the authorization period. This left little room for error. Assuming all outlays were spent, a revenue shortfall of even 1 percent below what SAFETEA-LU had predicted over the 5-year period would result in a cash shortfall in the account balance.



Source: GAO analysis of FHWA data.

Figure 1. Highway Account Balance, Fiscal Years 1998 through 2009

In fact, actual Highway Account receipts were lower than had been estimated, particularly for fiscal year 2008. Account receipts were lower in fiscal year 2008 due to a weakening economy and higher motor fuel prices that affected key sources of Highway Trust Fund revenue. For example, fewer

truck sales, as well as fewer vehicle miles traveled and correspondingly lower motor fuel purchases resulted in lower revenues. As a result, the account balance dropped more precipitously than had been anticipated and was nearly depleted in August 2008—1 year earlier than the end of the SAFETEA-LU authorization period. In response, Congress passed legislation in September 2008 to provide \$8 billion to replenish the account. However, according to CBO, the account could reach a critical stage again before the end of fiscal year 2009. Without either reduced expenditures or increased revenues, or a combination of the two, shortfalls will continue.

In the past, we have reported on several strategies that could be used to better align surface transportation expenditures and revenue.¹³ Each of these strategies has different merits and challenges, and the selection of any strategy will likely involve trade-offs among different policy goals. The strategies related to funding sources are also included in the recent report from the National Surface Transportation Infrastructure Financing Commission.¹⁴

- *Altering existing sources of revenue.* The Highway Account's current sources of revenue—motor fuel taxes and truck-related taxes—could be better aligned with actual outlays. According to CBO and others, the existing fuel taxes could be altered in a variety of ways to address the erosion of purchasing power caused by inflation, including increasing the per-gallon tax rate and indexing the rates to inflation.
- *Ensure users are paying fully for benefits.* Revenues can also be designed to more closely follow the user-pay concept—that is, require users to pay directly for the cost of the infrastructure they use. This concept seeks to ensure that those who use and benefit from the infrastructure are charged commensurately. Although current per-gallon fuel taxes reflect usage to a certain extent, these taxes are not aligned closely with usage and do not convey to drivers the full costs of road use—such as the costs of congestion and pollution. We have reported that other user-pay mechanisms—for example, charging according to vehicle miles traveled, tolling, implementing new freight fees for trucks, and introducing congestion pricing (pricing that reflects the greater cost of traveling at peak times)—could more equitably recoup costs.
- *Supplement existing revenue sources.* We have also reported on strategies to supplement existing revenue sources. A number of