

Transportation Policy

Evolution of Federal Freight Transportation Policy ¹

■ Executive Summary

This paper examines the evolving role of the federal government in freight transportation. It looks at federal policy through four brief case studies: the development of the intercontinental railroad; the construction of the Interstate Highway System; the economic deregulation of the freight transportation industry; and the implementation of ISTEA. In each, the paper asks the questions: What created the mandate for federal action? What role did the federal government play? What resources were applied? How did the experience shape subsequent federal policy? It finds that there has been no consistent pattern to federal freight transportation policy. The federal government appears to have fashioned approaches to meet the perceived needs and the political climate of the times.

The mandate for federal involvement has typically come after decades of debate about strongly enunciated state and industry problems. The transcontinental railroad was developed to link the country together after the Civil War. The catalyst for the Interstate Highway System was national defense and metropolitan development after World War II. The financial collapse of the railroad industry in the 1950s and 1960s triggered the economic deregulation of the commercial transportation industry. And rising public concerns about congestion and the social/environmental costs of building the Interstate Highway System were the major national concerns behind enactment of ISTEA in 1991.

The federal government has taken widely differing roles in freight transportation. The transcontinental railroad was built by the private sector in public-private joint venture with the federal government. The Interstate Highway System was built by the states in a public-public venture led by the federal government. To accomplish the deregulation of the commercial transportation industry, the federal government disengaged itself from the industry after almost one hundred years of direct economic oversight. With ISTEA, the federal government redefined its relationship with the states, devolving control over most transportation decision-making to state and local government.

¹This working paper was prepared by Cambridge Systematics, Inc., a member of the Battelle Team providing research and analysis support to the Federal Highway Administration Office of Freight Management and Operations. It is one in a series of working papers providing initial analysis and discussion of the trends and issues affecting freight transportation productivity in the United States and North America. The series is available at <http://www.ops.fhwa.dot.gov/freight/adfrmwrk/index.htm>. The working papers were prepared under contract DTFH61-97-C-00010, BAT-99-020. The opinions expressed in the working papers are those of the authors, not the Federal Highway Administration. The working papers are being circulated to generate discussion about emerging freight issues and may be updated in response to feedback from public and private sector stakeholders.

The strategies for funding projects have also varied widely. The federal government provided grants of land and credit support to the companies developing the transcontinental railroad, but did not directly finance construction. By contrast, the federal government took the lead in funding the Interstate Highway system through fuel taxes collected by the federal government and reapportioned to the states. Further, the federal government provided the political and legal structure for deregulation during the 1980's and early 1990's. ISTEA and TEA-21 continued the fuel tax based highway model of the interstate system but gave more decision-making authority to state and local government.

The paper argues that freight transportation has now emerged as a significant national policy issue on its own. The reliability and productivity of the nation's freight system are declining because of increasing demand and deteriorating capacity. These problems must be addressed because of the freight sector's importance to economic development and industry competitiveness in a global economy.

This paper² identifies three policy issues for a more focused national freight productivity program:

- **Mandate.** Is there a sufficient mandate to improve the reliability and productivity of the nation's freight transportation system? The paper explores the options for renewing and strengthening the mandate initiated in ISTEA and TEA-21.
- **Organization.** What is the role of the federal government in freight planning in an era where the prevailing view is that the federal government should not preempt state and local decision-making? With state and metropolitan planning organizations focused on regional and local issues and the private sector focused increasingly on national and global operations, the paper explores possible roles for multi-state/multi-jurisdictional trade-corridor and trade-area coalitions.
- **Resources.** What is the appropriate level of federal resources and how should they be deployed? If additional investment is needed, should it be provided through user fees and grants, or credit assistance? The paper explores options for expanding the boundaries of current programs and making greater use of innovative credit-assistance financing methods.

² The information and analysis in this paper are based on a literature scan that was conducted in the spring of 2000 and a series of informal interviews that were conducted in the summer and fall of 2000 with federal, state, and freight industry officials. The interviews were not for attribution in order to encourage candor. The objective of the paper was to explore and organize initial ideas on freight trends, implications, and issues. The paper is not intended to be a definitive treatment of the topic.

■ Introduction

With the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, transportation planners were given a mandate to consider freight transportation requirements when developing transportation plans and making investment decisions. While this was a welcome development for the freight transportation sector, freight transportation carriers and users have questioned whether the mandate expressed in ISTEA and its successor, the Transportation Equity Act for the 21st Century (TEA-21), has been fully realized.

ISTEA marked the end of the Interstate Era and a shift in leadership on transportation planning and investment from the federal government back to state and local government. ISTEA also marked a renewed awareness of the importance of freight transportation and an integrated, multi-modal transportation system to sustain economic growth. The preamble to the Act³ repeatedly acknowledged the linkages among economic productivity, freight and goods movement, and intermodal transportation (emphasis added).

- “It is the policy of the United States to develop a National **Intermodal Transportation System** that is **economically efficient** and environmentally sound, provides the foundation for the Nation to compete in the **global economy**, and will move people and **goods** in an energy efficient manner....
- The National Intermodal Transportation System shall consist of all forms of transportation in a **unified, interconnected** manner... while promoting **economic development** and supporting the Nation’s preeminent position in **international commerce....**
- The National Intermodal Transportation System shall include a **National Highway System** ... [of] roads which are essential for **interstate and regional commerce** and travel, national defense, **intermodal transfer facilities**, and **international commerce and border crossings....**
- The National Intermodal Transportation System shall provide improved access to **ports and airports, the Nation’s link to world commerce....**
- The National Intermodal Transportation System shall give special emphasis to the contributions of the transportation sectors to increased **productivity growth....”**

Congress understood the opportunities that a cost-efficient and competitive transportation system created for trade and economic development. Congress had watched the impressive improvements in freight carrier productivity generated by the deregulation of the freight transportation industry in the late 1970s and early 1980s. Deregulation freed the freight transportation industry from many modal and jurisdictional barriers. New, innovative services were created and productivity increased. By encouraging cross-modal

³Intermodal Surface Transportation Efficiency Act of 1991, H.R. 2950 (Enrolled Bill), Public Law 102-240, 105 Stat. 1914, Section 2., Declaration of Policy.

coordination in public and private freight planning and investment in ISTEA, Congress hoped to stimulate another advance in national freight productivity that would spur trade and economic development.

The Congressional emphasis on freight transportation in ISTEA reflects an historical pattern on the part of the federal government: to focus on transportation policy issues that either have not been addressed or cannot be addressed fully by state and local governments. When there has been a clear mandate, the federal government has often stepped in to organize and implement a program to advance the nation's transportation goals. Congress took a first, but partial, step toward a new mandate for the nation's freight transportation system with ISTEA.

While seeking to encourage freight productivity, congestion and environmental issues facing the Nation's transportation system became a primary focus of attention in ISTEA. Freight became a secondary focus.

Freight transportation has now emerged as a significant national policy issue on its own. Congestion and lack of capacity are constraining the freight transportation system, and the productivity of that system appears to be declining just at the time when global trade and competition are putting new requirements on the system and the economy.⁴ These requirements take two forms.

- There has been a dramatic increase in the demand for freight transportation. The volume of freight being transported over the nation's transportation infrastructure has grown rapidly. This is largely attributable to high rates of domestic economic performance and increased international trade. In addition, the cost of freight transportation has decreased in real terms, making it possible to buy more transportation services.
- Changes in the business sector have resulted in calls for higher quality transportation service. Just-in-time manufacturing, e-commerce, and demand for small package service have resulted in smaller but more frequent individual shipments of high-value goods that must meet tight schedules.⁵

These changes suggest that *managing* the transportation system through better operation of the public sector infrastructure is now as important for public policy-makers as building capacity and regulating transportation service providers.⁶

These new demands on the freight system prompt two related questions. Were the steps taken in ISTEA and TEA-21 sufficient to address the needs of the freight transportation sector? If not, then what additional initiatives should be undertaken?

⁴See related theme papers in this series, especially "Trade: From National Markets to Global Markets," and "Economy: Rapid Change in Manufacturing and Service Sectors," available at <http://www.ops.fhwa.dot.gov/freight/adfrmwrk/index.htm>.

⁵See related theme paper, "Business Logistics: From Push to Pull Logistics" available at <http://www.ops.fhwa.dot.gov/freight/adfrmwrk/index.htm>.

⁶See related theme paper, "Freight Systems: From System Construction to System Optimization," available at <http://www.ops.fhwa.dot.gov/freight/adfrmwrk/index.htm>.

■ Trends in Federal Freight Transportation Policy

The issues of what the national transportation mandate should be and what role the federal government should take have been addressed several times over the nation's history. This paper examines the changing role of the federal government in freight transportation. It looks at federal policy through four brief case studies:

- Development of the intercontinental railroad;
- Construction of the Interstate Highway System;
- Economic deregulation of the freight transportation industry; and
- Implementation of ISTEA.

In each, the paper asks the questions: What created the mandate for federal action? What role did the federal government play? What resources were applied? How did the experience shape subsequent federal policy?

The Railroad Era – Development of the Intercontinental Railroad

One of the earliest examples of a major federal transportation initiative was the development of the transcontinental railroad, completed in 1869. The federal government played an active and aggressive role in promoting the development of this important transportation link. There was urgency to do so. The discovery of gold in California had set off a major migration from the East to the Pacific Coast and intensified calls for a transcontinental railroad. While the cities and states along the West Coast were growing rapidly, they were far from the industrial and population centers in the East. At the same time, the nation had just emerged from the Civil War, and sentiment was high to reunite the nation and to facilitate communication and transport across the interior. A transcontinental railroad served both purposes.

The proposed railroad faced many obstacles. It was thought by many to be impossible from an engineering standpoint in that it needed to get across both the Rocky Mountains and the Sierra Nevada. It would pass through territory inhabited by Native Americans. It spanned a large number of individual states and territories. And it required a huge financial investment.

President Lincoln, who early in his career had worked as a railroad lawyer and had long supported the development of a transcontinental railroad, understood that the only way to get past these obstacles was for the federal government to play a leading role. Congress, however, was less enthusiastic about a large, direct federal role. The Civil War had stalled earlier Congressional efforts to underwrite the development of a transcontinental railroad and had drained the government's financial resources. The government wanted a railroad, but could not afford to embark on a major spending program. What resulted was a public-private venture through which two private companies, with the support and encouragement of the federal government, built the railroad. The government oversaw and regulated construction, provided grants of land and credit support, but did not directly finance construction.

The railroad, when completed, was heralded as the most significant accomplishment of the time. However, there was widespread criticism of the structure of the public-private partnership. The partnership limited the government's financial exposure, but it also created an opportunity for the private companies constructing and operating the railroad to increase their profits by influencing how the government exercised its regulatory oversight. There was widespread and justifiable belief that the government had enabled an enterprise that resulted in disproportionate wealth for a small number of people – that the private railroad builders and operators had put their private welfare far ahead of public responsibilities. This history and these concerns have shaped debate to this day about the advantages and disadvantages of public-private partnerships.

The Interstate Era – Construction of the Interstate Highway System

In the 1950s, nearly a century after the completion of the transcontinental railroad, the nation embarked on another major transportation initiative, the development of the Interstate Highway System. Three factors created the mandate for federal involvement and shaped how the federal government structured the program.

The first was the relationship of national security to infrastructure. While the need for a national highway system was discussed after World War I, the development of this system was spurred after World War II by the start of the Cold War. The experience of the war years had made clear that the nation's road system could not support rapid mobilization nor sustain a war effort. The spread of Communism in Eastern Europe had heightened public anxiety about another war and generated support for a strong national defense system. A network of high-speed highways throughout the country was sold as a national defense measure that would also strengthen the nation's economy.

The second factor was the push to develop the suburbs and the beginning of the Baby Boom. Following the war, returning servicemen obtained careers in the private sector and started families. Demand for housing shifted to areas beyond the central cities, which remained the centers of employment. Rapid access between the new bedroom communities and city-based employment centers was provided via high-speed highways. These highways in turn made the suburbs more attractive for new residents, and greatly enhanced the economic development prospects of the suburbs.

The third factor was that large government programs developed in response to the war effort and the Great Depression that preceded it had made the notion of a federally sponsored highway program acceptable. There was widespread political support for a federal initiative to develop an Interstate Highway System. The debate was less about whether it made sense for the federal government to embark on this program and more about where the proposed highways should be built.

The Interstate Highway program was structured as a partnership between the federal government and the states. The federal government led the planning effort and was responsible for assembling the funding for the program. The states became the owners of the system. State highway departments were established or strengthened to work in partnership with the federal Bureau of Public Roads, a part of the Department of Commerce, to design and build the system. The program was financed primarily through fuel taxes collected by the federal government and apportioned to the states based on the

cost to complete the Interstate highways located within a state. There was no private sector involvement.

The Interstate Highway System was one of the greatest accomplishments of the second half of the 20th Century. It shaped not only surface transportation, but also land use throughout the country. It opened regions once regarded as remote to development. By creating beltways to bypass congested metropolitan centers, the Interstate Highway System accelerated the transformation of the streetcar suburbs of the 1890s into the automobile suburbs of the 1950s. And it reinforced the nation's fascination with and dependence upon the automobile, a pattern that continues to the present.

There was also a negative side. The Interstate Highway System and the automobile traffic it generated led to increased demand for imported oil and dramatic increases in air pollution. This in turn resulted in new efforts to regulate engine pollutants and fuel economy. The massive building program also resulted in the forced relocation of families, businesses, and communities, primarily in inner cities, to make way for the new highways.

The cumulative social, economic, and environmental impacts of the highway construction program created intense community opposition in many cities. By the 1970s, public support for a massive, national highway program driven by decisions made by a large federal bureaucracy was waning. This reaction to the Interstate program would strongly influence the ISTEA debate over federal transportation policy 20 years later, and led to a decision to shift control over transportation investment from the federal level to the state and local levels.

The Deregulation Era - Economic Deregulation of Commercial Transportation

During the 1970s and 1980s, the federal government embarked on an ambitious program to reshape regulation of the commercial transportation sector. Federal economic regulation of freight transportation had begun with the 1887 Act to Regulate Interstate Commerce targeted at the railroad industry. The federal economic regulation was a response to concerns that unfettered competition was bankrupting railroads while unregulated pricing was permitting others to charge monopoly prices and inviting collusion. The Supreme Court had confirmed earlier the rights of states to regulate the railroads, but the states found it difficult to regulate consistently and effectively across state borders.

The federal government was drawn in to ensure uniform national regulation. Under the Interstate Commerce Commission's regulatory regime, the railroads operated under government oversight of the services they could provide, the routes they could use, and the prices they could charge. The same basic approach was applied to the motor carrier industry in the 1930s and the airline industry in the 1950s.

The urgency to deregulate these industries in the 1970s and 1980s was triggered by the financial collapse of a number of railroad companies and the subsequent formation by the government of Conrail as the freight railroad in the Northeast and Amtrak as the national passenger railroad. The problem had been building for years; by the 1970s, the railroad

industry was replete with bankrupt or financially weak carriers. Deteriorating capital stock, intense competition from motor carriers, changing markets, and poor management had brought much of the industry to the edge of collapse. In 1976, more than 47,000 route-miles, approximately 25 percent of the nation's total, were operated at reduced speeds due to dangerous conditions.⁷

The railroad sector was not the only sector suffering under a heavy regulatory burden. The aviation sector also was feeling the effects of fuel price increases, and air service was widely regarded as too costly and not as responsive to market demands as it could be. The Civil Aeronautics Board (CAB), established in 1938, regulated air carriers in the United States. The CAB determined flight routes and prices for the airlines. These restrictions caused market distortions and inefficiencies, driving up ticket prices and skewing the demand for air travel. The cost of an unregulated intrastate flight from Los Angeles to San Francisco, for example, was often less expensive than a regulated interstate flight of equal distance.

Deregulation was proposed as the solution to the ills of the commercial transportation sector. The premise behind deregulation was that, over the years, government regulation had resulted in increased levels of inefficiency among commercial carriers. In addition, the regulations seemed out of step with the needs of shippers and receivers desperate to reduce costs and compete against Asian imports. Therefore, if regulation could be eliminated or greatly scaled back, the carriers would respond by becoming more efficient and responsive to the demands of the market. Competition would result in lower transportation costs and higher levels of service.

Four separate pieces of deregulatory legislation were enacted between 1978 and 1984. These included the Airline Deregulation Act of 1978, the Staggers Rail Act of 1980, the Motor Carrier Act of 1980, and the 1984 Shipping Act. All employed the same basic approach of focusing on easing restrictions on market entry and exit, removing price controls, and allowing for differential services.

The effect of deregulation was to remove the modal and jurisdictional barriers among freight carriers. The result was the birth of the intermodal transportation industry and dramatic growth in freight transportation. Since deregulation was adopted, transportation costs have declined, and service has improved. In addition, new technological innovations such as double-stack rail service have been adopted.

Economic deregulation has not been perfect, but the general approach has been a success. The lesson learned from this federal transportation policy era was that the best government transportation policy was often to reduce the role of government. This philosophy became a major defining theme behind the federal transportation policy debates in the late 1980s that lead to the enactment of ISTEA.

⁷United States Department of Transportation, Bureau of Transportation Statistics (BTS), "The Changing Face of Transportation," Final Edition, 2000. Available at <http://www.bts.gov/transtu/cft/as> of August 2001.

The ISTEA Era – Implementation of ISTEA and TEA-21

ISTEA

At the end of the 1980s, as Congress began considering the reauthorization of the surface transportation program, four factors emerged to shape the debate over the form of the new transportation authorization. The first and most obvious factor was that the construction of the Interstate Highway System was nearing completion. Completion of the Interstate system had been among the nation's highest surface transportation priorities and achieving that goal was on the immediate horizon. The second factor in the debate was the emergence of intense public concern about the environmental impacts of transportation. While these concerns were not new, they received significant attention in a parallel effort to amend the Clean Air Act in 1990. Third, after years of deteriorating conditions in the nation's transit systems, a consensus had developed around the need to redress what was viewed as significant under-investment in transit. And finally, the success of the economic deregulation of the commercial transportation industry in the 1970s and 1980s led to a widely held view that the federal government's role in transportation should be more that of an enabler than of a controller.

ISTEA, which was signed into law in 1991, responded to these factors in a dramatic fashion. The legislation was a major departure from prior surface transportation programs, changing the roles of the federal government and its state and local partners. Specifically, ISTEA devolved more control of transportation investment decisions to state and local government. This action was based on the premise that those levels of government would know best how to complete remaining pieces of the Interstate system and integrate highways and transit systems into the urban centers.

ISTEA also established a specific link between transportation planning and project funding. States and Metropolitan Planning Organizations (MPOs) were required to develop transportation plans and improvement programs according to prescribed guidelines and use these as the basis for prioritizing projects and allocating federal funds. The plans were required to meet transportation requirements and conform to the requirements of the Clean Air Act.

Funding flexibility was another characteristic of ISTEA. Funds were distributed to the states in broad program categories. The states were given the flexibility to allocate funds to a wide variety of projects and, within limits, to shift funds among categories.

These changes removed many of the modal barriers to state and local transportation investments. State and local government could trade off investments between highways and transit to build the most effective portfolio of transportation systems and services for their state and metropolitan areas. In addition to lowering modal barriers at the state and local level, ISTEA gave emphasis to transportation as an integrated, multi-modal system rather than a collection of distinct and independent modes. It created an Office of Intermodalism in the Office of the Secretary of Transportation and gave the office responsibility for initiatives to foster the development of intermodal transportation in the United States. However, the office was given limited funding and authority. It was to coordinate initiatives, not oversee programs.

Despite the frequent mention of freight in the preamble to ISTEA, the primary focus of ISTEA was metropolitan and state planning and investment. There were specific provisions to implement the freight mandate, but they were relatively few. Neither the scope of emerging freight needs nor the range of appropriate responses were fully understood when ISTEA was debated.

The most significant provision affecting freight transportation was the call for designation of a National Highway System (NHS). Congress recognized that the national transportation system was a major factor in maintaining the nation's international competitiveness and ensuring continued economic strength. Congress called for the identification of those highways (including the Interstate Highway System, the Strategic Highway Network and its Connectors, and other principal arterials identified by the States in cooperation with the Federal Highway Administration [FHWA]) that were critical to the economic well being and development of the nation. These NHS priority highways were eligible for dedicated funding.

The call for designation of the NHS also included a provision to identify intermodal connectors: highways and local roads linking the NHS to key intermodal facilities (e.g., ports, rail terminals, airports, etc.). However, the NHS program differed from the Interstate program in that funding was limited to the authorized levels of the program rather than the cost-to-complete the designated NHS highways and intermodal connectors. In that regard it was more of a conceptual and planning framework than a commitment to fund a new system of highways. It was a call to maintain the funding of critical highways rather than a call to build new facilities.

What ISTEA did not do was create a funding program specifically for freight projects. The funding flexibility of ISTEA, however, made it possible to fund certain types of freight projects. The newly created Office of Intermodalism was empowered to serve as an advocate for freight projects, but freight projects funded through ISTEA programs had to be identified as priorities within the state- and MPO-led planning processes. This proved difficult for the states and MPOs, because while the costs of many freight projects are borne locally, the benefits of most of these projects extended well beyond the borders of a given state or metropolitan area. Building political constituencies for freight projects crossing political jurisdictions proved a major barrier.

ISTEA also did not explicitly authorize funding for rail-freight projects. This meant that the project sponsor of a rail-freight project needed to identify other ways to qualify the project for funding indirectly, such as describing it as an air-quality enhancement project.

The effect of the freight policy language of ISTEA was to raise expectations in the freight transportation sector. However, the limits on the funding programs themselves made it difficult to prioritize and fund freight-specific projects, particularly when they were competing for funding against other, more visible and traditional projects with well-organized supporters. In addition, the devolution of decision-making to the state and local level and the emphasis in ISTEA on thinking and acting locally complicated freight transportation planning and project development. The perspective of state and local planners is limited by statute to the area over which they have jurisdiction. However, freight systems tend to be national or global in scope. The NHS addressed this issue, but only within the highway network and its intermodal connectors.

In summary, ISTEA gave state and local governments a mandate to address metropolitan congestion and rebalance highway transit investment; it shifted roles and responsibilities to give state and local governments greater control over the planning and investment process; and it freed them to move funding across modes under certain conditions. It also gave state and local governments a new mandate to address freight issues, but provided few specific tools to do so and left open the question of an appropriate federal role. Despite these limitations, ISTEA remains an important first step in meeting the nation's freight transportation needs.

TEA-21

TEA-21 began to redress these shortfalls of ISTEA, providing new resources and tools to address freight needs at the federal, state, and local levels. TEA-21, enacted in 1998, continued much of the basic framework of ISTEA. In addition, it included four new programs that have been beneficial in meeting freight transportation needs.

The first two programs are the National Corridor Planning and Development Program and the Coordinated Border Infrastructure Program. These programs share an annual funding authorization of up to \$140 million. Funds are awarded annually through a competitive process. While these programs are not limited to freight projects, they have proven to be a good source of funding for such projects. There are three reasons for this. The first is that the programs are funded with resources over and above the regular formula apportionments to the states. This provides states the opportunity to seek funding for trade/freight-oriented projects without taking funds from other state and local priorities funded through the regular federal-aid programs. Second, the programs are discretionary, allowing the federal government to fund freight programs and projects that might not otherwise receive state and local funding. Finally, the scope of these programs is intended to promote multistate consideration rather than individual state and local focus, thus better matching the scope of today's freight transportation systems. This enhances the competitiveness of freight projects which often have benefits far beyond the border of a given state or metropolitan area.

The major shortcoming of these programs is that the need far surpasses the annual funding limit. The experience to date has indicated that applications received have exceeded the funding available, in some years by a ratio of eight to one, in others by a ratio as high as 16 to one. Also, fewer multistate initiatives emerged than anticipated. Additionally, Congress has earmarked much of the program funds for non-freight projects.

TEA-21 also created two new credit programs. The first of these is the Transportation Infrastructure Finance and Innovation Act (TIFIA), which provides loans, loan guarantees, and lines of credit for large projects. The program is modeled after a loan provided for the Alameda Corridor Transportation Project, a truck and rail corridor project enhancing access to the ports of Los Angeles and Long Beach. To qualify for assistance under TIFIA, a project needs a source of revenue to cover debt service costs, the total project must be valued at over \$100 million or 50 percent of the state's annual federal-aid highway apportionments, whichever is less,⁸ the federal TIFIA loan cannot exceed one-third of the

⁸ITS projects must be valued at over \$30 million to qualify for a TIFIA loan.

total project cost, and the project's senior debt obligations must receive an investment grade rating from at least one of the major credit rating agencies. These factors limit its applicability, but TIFIA is an important tool that can be used for financing freight projects that meet the program guidelines.

The second program, the Rail Revitalization and Improvement Funding program (RRIF), is also a credit program, but it is targeted specifically at providing credit for rail infrastructure and equipment. Although the program was established in law, administrative guidelines were slow to be developed to implement it; only one loan has advanced to date. The structure of the program essentially requires applicants to pay an up-front fee representing a percentage of the loan requested in order to qualify. This has proven to be a substantial disincentive to use the program.

TEA-21 addressed some but not all of the limitations in ISTEA related to freight transportation. First, TEA-21 created funding programs awarded annually for projects determined to have regional and national significance. The demand for funding under these programs illustrates clearly that they are addressing a significant need. Second, TEA-21 provided limited support for rail projects through TIFIA and RRIF. This was a significant step despite the limitations on applicability and funding.

In summary, ISTEA and TEA-21 provided state and local governments an opportunity and responsibility to address freight transportation issues, broke down barriers to state and local planning and investing across highway-transit modal boundaries, and created new resources to fund freight projects. They also added shippers and carriers to the list of transportation stakeholders to be consulted in developing transportation improvement programs.

However, ISTEA and TEA-21 differed significantly from the earlier federal actions to deregulate commercial transportation. The initiatives taken to deregulate the commercial transportation sector removed nearly all economic barriers to business agreements among carriers and between shippers and carriers. In contrast, ISTEA and TEA-21 addressed modal funding boundaries but did not break down the institutional barriers facing states and MPOs trying to work across state and local lines, or the barriers to investing in intermodal freight projects. In recognizing that freight transportation needs are not contained neatly within state and local boundaries, it is clear that ISTEA and TEA-21 did part, but not all, of the job.

State and Local Experience with Federal Freight Transportation Policies under ISTEA and TEA-21

The state of public sector freight planning and investment today reflects both the positive impacts of ISTEA and TEA-21 in enunciating a national freight mandate and the barriers to improving freight planning and investment.

The freight mandates of ISTEA and TEA-21 were successful in focusing state and federal attention on freight issues, although freight investment must compete with other, broader infrastructure investment in the process. There is a growing awareness at the state and local level of the importance of freight transportation and a push to re-link state and local transportation investment, especially freight transportation investment, to economic development. States, MPOs, and business leaders are much more mindful today of the

need to maintain and improve the productivity of the freight system as a strategic competitive advantage than they were 10 or 20 years ago. The lessons learned from the rapid expansion of the domestic economy over the last decade, the challenges of global economic competition, and the prospect of losing market advantages in a recession have brought home the message that the freight system, as much as land cost, labor availability, and tax policy, is critical to economic success.

The MPOs in Chicago, Columbus, Ohio, San Francisco, and New York were early leaders in examining local freight needs and reaching out to the freight community for advice and guidance on freight transportation improvements. In almost all these MPOs, the push to develop freight planning capabilities and programs grew out of the ISTEA and TEA-21 mandates, but without dedicated funds for staff and projects. Highway and transit planners, engineers, and economists were reassigned as freight specialists, and project funds were cobbled together from multiple public and private sources. The same has been true at the state level. Washington State, Wisconsin, California, Maine, Florida, Maryland, Texas, and Ohio have all started to assemble information on the movement of freight within the state, and to tie freight policy and transportation investments more closely to state economic development goals.

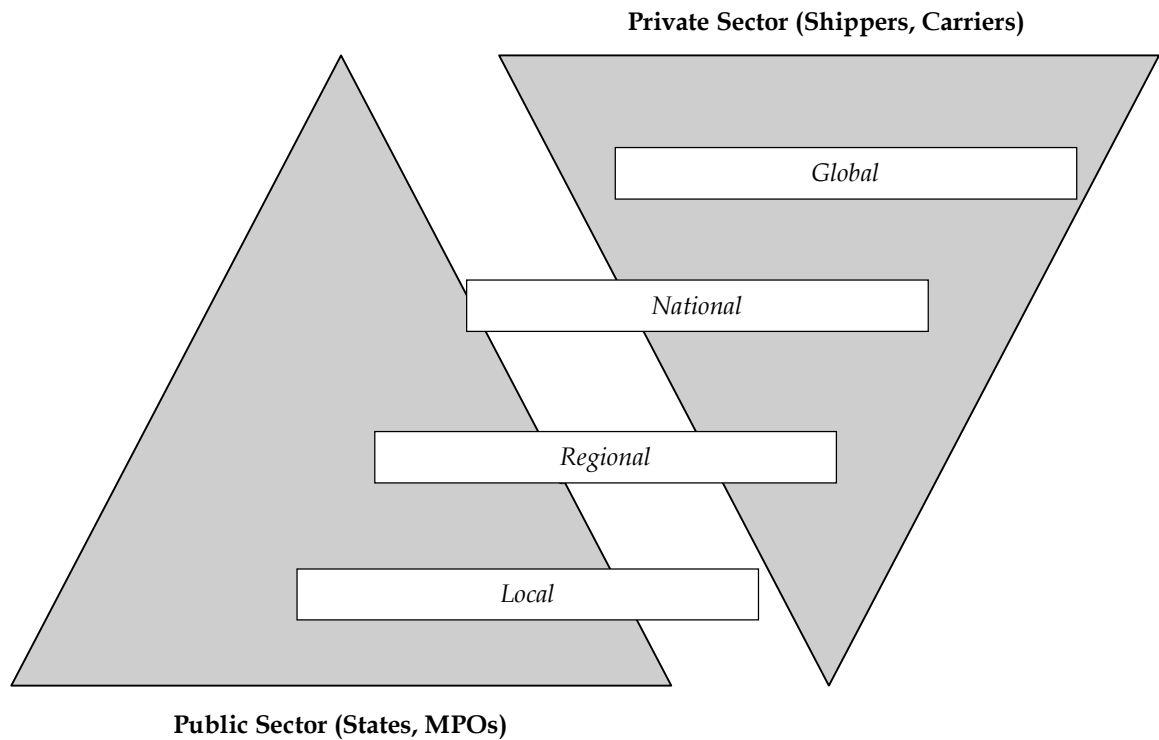
However, the public sector process for planning, financing, and delivering freight improvements has proven to be slow, inflexible, and disjointed compared to private sector needs and expectations. The states and MPOs, accustomed to dealing with complex, long-term, and expensive highway and transit investments, have had difficulty responding to the private sector freight industry's innovate-today-or-be-out-of-business-tomorrow environment. Since ISTEA, the state and MPO focus has been regional and local while the private sector focus has been increasingly national and global. (See Figure 1.) This has compounded the difficulty of engaging private sector freight interests in state and MPO planning processes. A decade after ISTEA, freight representation and participation in planning and programming decisions at the state and MPO levels (and even at the federal level) are limited despite efforts to bridge the two cultures.

The mismatch between the span of private sector freight operations and state and local jurisdictions has driven a growing number of states and MPOs to pull together ad hoc initiatives to understand and solve regional freight movement needs. The I-95 Corridor Coalition launched an intermodal freight and passenger program covering the 12 states from Maine to Virginia and recently sponsored a Mid-Atlantic Rail Operations project to look at the tradeoff between highway and rail investment in the congested and capacity-constrained corridor between the New York-Northern New Jersey region and Virginia. The southeast states pooled funds for the Latin America Trade and Transportation Study, which evaluated the capacity of the region's highway, rail, and port systems to serve the growing demand for freight movement between the U.S. and Latin America. The Pacific Northwest states and British Columbia have funded a series of studies examining economic development strategies and freight movement needs along the I-5 corridor. And the eight states along I-10 from Florida to California are funding a joint effort to improve cross-country truck movement and access to ports along the corridor. However, these initiatives have been difficult to launch and maintain. Multistate programs – whether organized around trade areas or corridors – fall awkwardly between the constitutional jurisdictions of the federal government and the states. Without a constitutional mandate and dedicated funding, the multistate programs are sustained

precariously by consensus, Congressional earmarks, and short-term, pooled funding agreements.

Figure 1. Freight Transportation Perspectives

State and MPO Focus Is Regional and Local; Private Sector Focus Is Increasingly National and Global



The mandate to understand and plan for freight in an increasingly complex planning and investment environment has also brought into sharper focus the inadequacy of freight planning data and analysis tools. There are massive amounts of data on freight and the freight transportation system. There are databases on commodity and vehicle movement by truck, rail, inland waterway, marine steamship, and air. Each database delineates a few features of the freight transportation system and provides a glimpse of reality, but it is very difficult to assemble a complete and comprehensive picture of the freight system from these databases without a major investment of time and effort. For many MPOs, all but a handful of states, and even the federal government, assembling a complete and comprehensive picture of freight movements has been a major hurdle to understanding freight flows and identifying policies and improvements to improve freight productivity. At the federal level, efforts to develop planning frameworks such as the National Highway System (NHS) or the Marine Transportation System (MTS) have been useful, if partial, first steps.

While states and MPOs are adapting traditional transportation models to analyze truck freight movements, trucks trips represent a small fraction of all vehicle trips, are governed by industry-specific routing and dispatching rules, and operate across MPO and state boundaries. Few states and MPOs have had the resources and patience to build effective

truck freight models. Building national truck-freight models and integrating these with rail, air, waterway, and marine freight models is only now being addressed by FHWA's Office of Freight Management and Operations and its partners in the Office of the Secretary, the FHWA Office of Policy, the FHWA Planning Core Business Unit, the Federal Railroad Administration, the Maritime Administration, and the Bureau of Transportation Statistics through the Multi-Modal Freight Analysis Framework program.

From the viewpoint of states and MPOs, ISTEA and TEA-21 created new freight programs (e.g., TIFIA, RRIF); permitted states to expand their funding of highway operations to reduce congestion; and gave states the flexibility both to allocate funds to a wide variety of projects and, within limits, to shift funds among categories within the Highway Trust Fund. The states and MPOs have applied these programs and related "innovative financing" techniques to advance freight projects, pushing the envelope with limited funds. Federal, state, and local governments are investing a record amount of money in transportation systems, but most of these funds, especially money from the highway trust funds, are allocated to maintenance and rehabilitation of existing highways and bridges. Fewer and fewer funds are available from established transportation funding sources for new highway, rail, and port freight projects.

States and MPOs are advancing the ISTEA and TEA-21 mandates to improve the productivity of the nation's freight transportation system. They have made creative use of the new technical and financial resources offered by ISTEA and TEA-21, but major institutional, technical, and funding barriers remain.

The Case Studies - Conclusions

The case studies examined the changing role of the federal government in freight transportation, asking the questions: What created the mandate for federal action? What role did the federal government play? What resources were applied? How did the experience shape subsequent federal policy?

The broadest conclusion to be drawn from the case studies is that there has been no consistent approach to freight transportation policy. Instead, the federal government has fashioned pragmatic approaches to meet the perceived needs and the political climate of the times.

Mandate

The mandate for federal involvement typically comes after decades of debate about strongly enunciated state and industry problems. The transcontinental railroad was developed to link the country together after the Civil War. The catalyst for the Interstate Highway System was national defense and metropolitan development after World War II. The financial collapse of the railroad industry in the 1950s and 1960s triggered the economic deregulation of the commercial transportation industry. And rising public concerns about congestion and the environmental costs of overbuilding the Interstate Highway System were the major national concerns behind enactment of ISTEA in 1991.

Organization

The federal government has taken widely differing roles in freight transportation. The transcontinental railroad was built by the private sector in public-private joint venture with the federal government. The Interstate Highway System was built by the states in a public-public venture led by the federal government. To accomplish the deregulation of the commercial transportation industry, the federal government disengaged itself from the industry after almost one hundred years of direct economic oversight. With ISTEA, the federal government redefined its relationship with the states, devolving control over most transportation decision-making to state and local government.

Resources

The strategies for funding projects have also varied widely. The federal government provided grants of land and credit support to the companies developing the transcontinental railroad, but did not directly finance construction. By contrast, the federal government took the lead in funding the Interstate Highway system through fuel taxes collected by the federal government and reapportioned to the states. The federal government provided the political and legal structure for both deregulation and ISTEA, but left the issue of financing transportation improvements up to the private sector and state and local government.

■ **Implications and Issues for the Future**

Looking beyond ISTEA and TEA-21, it is important to evaluate the nation's future outlook for freight transportation, and to consider how best to address its needs. Is it necessary to completely redesign the federal transportation program or is it possible to meet the needs of freight transportation through enhancements to the existing programs? Based on the historical experience with federal transportation policy as well as the more recent experience under ISTEA and TEA-21, it is possible to draw a number of implications that could suggest future responses to freight transportation policy issues.

Mandate

Is it time for a stronger freight mandate? History has shown that, as a general rule, the federal government becomes involved in national transportation initiatives in response to strongly enunciated state and industry problems. The major federal initiatives in the transportation sector have all been in response to situations regarded by policy-makers as national imperatives. The transcontinental railroad was developed to link the country together. The catalyst for the Interstate Highway System was national defense. The financial collapse of several major railroads triggered the economic deregulation of the commercial transportation sector; and rising public concerns about congestion and the environmental costs of overbuilding the highway system were the major national concerns behind enactment of ISTEA and TEA-21. Today, the reliability and productivity of the nation's freight system are declining because of increasing demand and deteriorating capacity. A national imperative is now emerging to improve freight transportation productivity because of the freight sector's importance to economic development and industry competitiveness in a global economy. This suggests that

ISTEA and TEA-21 mandates need to be renewed and strengthened to address freight issues. The problems of the freight transportation sector and the consequences of not addressing them are clearer today than when ISTEA was enacted 10 years ago, and they will sharpen in the coming years.

Organization

Do the roles and responsibilities for freight planning and investment need to be changed? What is the federal role in freight planning and investment in the After-TEA era? Who does the federal government need to work with? The Interstate era and experience under ISTEA and TEA-21 argue for working in partnership with state and local governments and the private sector. However, the experience of the transcontinental railroad and the deregulation of the commercial transportation sector argue against too much federal government involvement with the private sector. The federal government has been rightly concerned about distorting the competition of the marketplace or providing too much public support to individual private enterprises. This complicates any future response to freight transportation needs since so much of this sector is in the hands of private industry.

Recent history suggests that the federal government should focus its efforts on encouraging state and local governments to plan and invest in freight system capacity. This builds on ISTEA and TEA-21 and is in keeping with the prevailing view that transportation solutions are best left to state and local governments, which are more fully engaged in the issues of economic competitiveness and global trade opportunities today than when ISTEA was enacted.

Still, there remains a need for strong federal leadership and a forum for identifying freight trends and issues and catalyzing action. The health of the freight transportation system is a national concern. It warrants continuing Congressional and Department of Transportation attention.

Federal leadership is also central to improving the ability of states and MPOs to work together on freight projects. Many freight problems are regional in scale. They require an overall understanding of the full scope of the transportation system and how it operates. Multistate freight programs – whether organized around trade areas or trade corridors – fall awkwardly between the constitutional jurisdictions of the federal government and the states. Without a constitutional mandate or dedicated funding, most multistate coalitions exist precariously, sustained only by consensus, Congressional earmarks, or pooled highway research funds.

Resources

What is the appropriate level of federal resources and how should they be deployed? Historically, the federal government has minimized its role in funding transportation projects, especially freight transportation projects. Even the transcontinental railroad did not receive significant federal funding outright. Instead, the federal government granted land and provided limited credit support, but left it to the railroads to raise the capital for the enterprise. The Interstate system was the exception, but the national defense

imperative following World War II was compelling enough to launch the program. However, the source of funding, fuel taxes, was specifically tied to its intended use. This had the effect of creating the modal structure of current federal programs and strong constituencies for those programs. This suggests that it will be difficult to structure a major new funding program and maximize its flexibility to fund intermodal projects.

However, the federal government could act to expand the TEA-21 borders and corridors programs, and consider making intermodal-corridor border projects as well as highway-projects eligible. It could also establish a complementary terminals and connectors program. The last mile of road connecting Interstate or other NHS highways to marine ports, airports, and rail terminals is often an under-designed and poorly maintained “orphan” in state and local planning and funding.

The federal government could move to better integrate the public sector process for planning, financing, and delivering freight improvements. The current process is slow, inflexible, and disjointed compared to private sector needs and expectations.

Finally, the federal government could mount an aggressive effort to improve freight data and analysis tools. For many MPOs, all but a handful of states, and even the federal government, assembling a complete and comprehensive picture of freight movements has been a major hurdle to understanding freight flows and identifying policies and improvements to improve freight productivity. The operations view of the freight transportation system that looks to build freight capacity and productivity through better management of public infrastructure and better coordination with private operations is crucial in planning for future requirements.

Conclusion

What does this review of freight transportation policy suggest? First, while freight has emerged as a significant policy issue, it has not achieved the urgency needed to suggest a massive investment program. It does merit an aggressive federal response in partnership with state and local government. Second, it will be necessary to develop a federal response that recognizes that freight needs extend beyond the scope of states and metropolitan areas. This does not suggest that the state and metropolitan focus of ISTEA and TEA-21 is wrong. Rather it suggests that the existing focus be supplemented with further efforts to look at trade corridors and multi-state regions. Third, it will be necessary to fashion a working relationship with the private sector that recognizes the major role that the private sector plays in freight transportation but respects the proper role of government. The credit programs of TEA-21 are a start, but other funding programs may be needed. This will require a means of discerning public interest from private benefit to determine the appropriate level of public support.