



The Transportation Equity Act for the 21st Century in Action

Money at Work

**American Association of State Highway and Transportation Officials
American Public Transportation Association**

October, 2001



acknowledgements

The American Association of State Highway and Transportation Officials and the American Public Transportation Association wish to acknowledge the contributions of time and talent that have made this report possible.

Robert Reilly, Director, Cooperative Research Programs

Christopher Jenks, Manager, Transit Cooperative Research Program

Ronald McCready, Senior Program Officer, National Cooperative Highway Research Program

Robert Stanley, Research, Cambridge Systematics, Inc.

Arlee Reno, Research, Cambridge Systematics, Inc.

Craig Secrest, Financial Consultant, TransTech Management, Inc.

Alan Pisarski, Research, Consultant

Alexander Ellis-Boyles, Editorial Consultant, The Hubbell Group, Inc.

Melinda Appel, Graphic Designer, AppelGrafix, Inc.

The state departments of transportation and organizations that provided some of the lovely photographs that grace this report. For specific information regarding the projects depicted in these photos, see the Projects Section in Part Three.



**The Transportation Equity Act for the
21st Century in Action**

Money at Work

October, 2001



**American Association of State Highway and Transportation Officials
American Public Transportation Association**



Under the leadership of Mary Peters, then Director of the Arizona Department of Transportation (third from right), more than 50 groups collaborated on an environmentally and visually sensitive approach to widening Route 87 in the Tonto National Forest.



Contents

Foreword: Supporting Our Economy in the New Century

- I. **Increasing the Nation's Investment in Highways and Transit**
TEA-21 increased federal highway and transit funding nearly 40 percent. This additional funding is being put to work wisely and expeditiously on an exciting array of state-of-the-art transportation improvements.

- II. **The Value of Increased Transportation Investment**
Increased investment provides benefits including improvements to safety, mobility and access, economic performance and environmental quality.

- III. **Making a Difference: Works in Progress from Around America**
Increased federal funding and innovative new policies are giving state and local officials the tools they need to meet their transportation needs speedily and effectively.



Foreword

Supporting Our Economy in the New Century

From canals and railroads in the 19th century to Interstate highways and rapid transit in the 20th century, transportation has served an America on the move. Today, at the dawn of the 21st century, the globalization of trade, the emergence of the Internet and other transformations present new economic opportunities – and pose new mobility challenges. How we respond will determine our nation's economic progress, and our quality of life, far into this new century.

With the 1998 enactment of the Transportation Equity Act for the 21st Century (TEA-21), Congress gave us the tools to begin meeting the mobility challenges we face today – and provided us with a model for how to address those we will face in the future.

TEA-21 authorized federal highway and transit programs for the six-year period through 2003, helping us partner with the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to begin reversing the deterioration of our highways and bridges, supporting a renaissance in public transportation and ushering in a new era of interconnected transportation services and facilities.

Now at the mid-point of TEA-21, is an appropriate time to look back at the past three years and explore what this landmark legislation has accomplished to date.


As we take stock of the accomplishments made possible by TEA-21, we must remember that the job is far from over. TEA-21 has begun to move us in the right direction, but the stewardship of transportation demands our lasting commitment. We hope the successes portrayed in this report will inspire renewed dedication to keeping America's transportation system the finest in the world.




John Horsley
AASHTO



William Millar
APTA


John Horsley
Executive Director

American Association of State Highway
and Transportation Officials
(AASHTO)


William W. Millar
President

American Public Transportation
Association (APTA)

TEA-21: Record-Level Resources, Being Invested Well, and Making a Difference

In 1998, Congress enacted the six-year Transportation Equity Act for the 21st Century (TEA-21), which increased federal investment in highways and transit close to 40 percent. Over the past three years, the U.S. Department of Transportation, states and local governments have put those resources to work in ways that are making a difference all over America.

Increased highway preservation and performance

TEA-21 has enabled states, counties and cities to accelerate repairs to highways and bridges, increase capacity, and link America—North, South, East and West—to the global economy.

Record-level transit ridership

Transit ridership has increased to 9.4 billion, the highest level in 40 years, because of new transit rail service and modernized bus fleets funded by TEA-21.

Saving lives

Safety programs have improved the use of seat belts, child safety seats and air bags, reduced drunk driving and built safer facilities.

Improved access and environmental enhancement

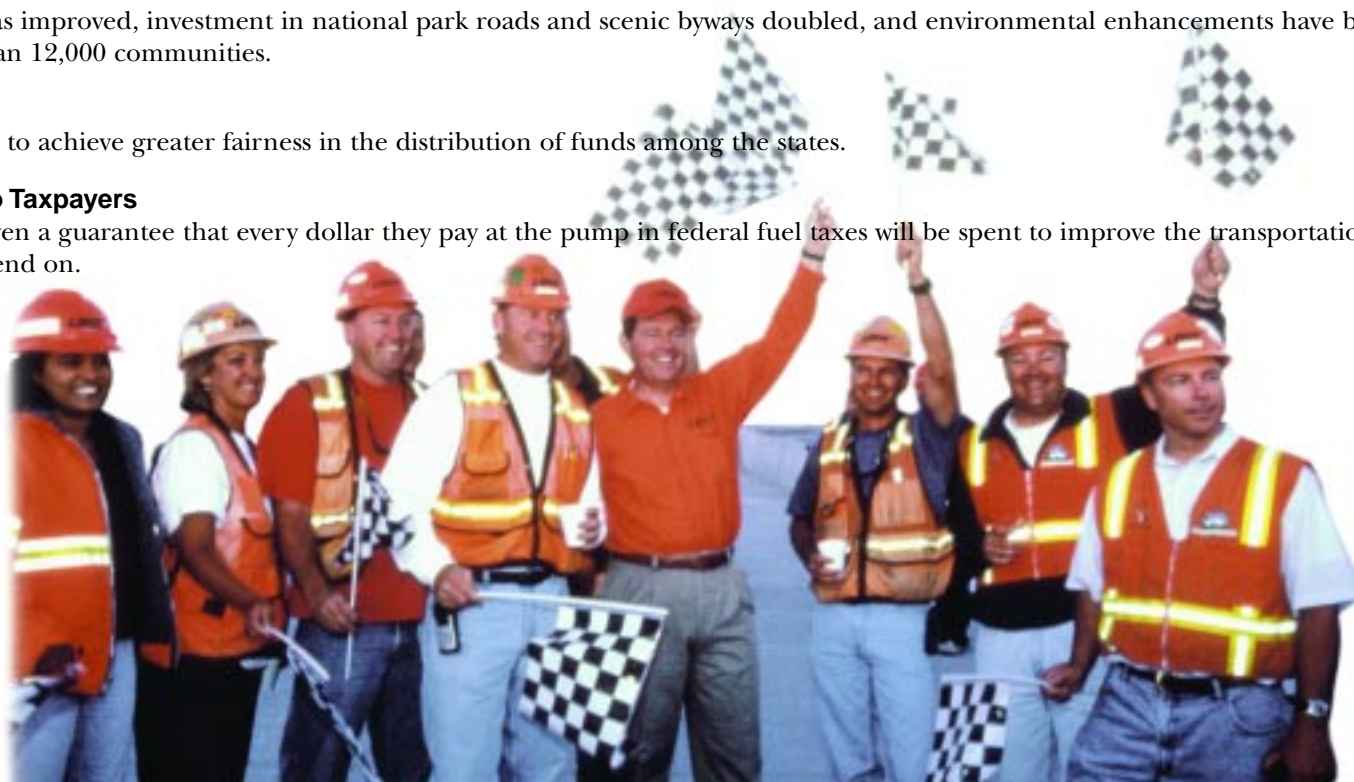
Access to jobs has improved, investment in national park roads and scenic byways doubled, and environmental enhancements have been built in more than 12,000 communities.

Greater Equity

Congress sought to achieve greater fairness in the distribution of funds among the states.

Commitment to Taxpayers

Citizens were given a guarantee that every dollar they pay at the pump in federal fuel taxes will be spent to improve the transportation system they depend on.



America's Winter Olympics, by Road and by Rail

Two TEA-21 Success Stories

Utah's I-15 Project

The Utah Department of Transportation's \$1.6 billion Interstate 15 renovation was completed six months early. It rebuilt 17 miles of freeway with up to 12 driving lanes and 142 bridges. It was the first major project in the U.S. to use the "design-build" approach, allowing the project to be completed in just 4.5 years instead of the eight needed under previous approaches.

The highway is now open and ready for the extraordinary movement of people required by the 2002 Winter Olympics in Salt Lake City.

Salt Lake City TRAX Light Rail

Completed 13 months ahead of schedule and \$20 million under budget, the initial segment of the Utah Transit Authority's TRAX light rail system carries commuters between Salt Lake City's southern suburbs and the central business district. A second line, from the central business district to the Olympic Stadium, should be completed in time for the 2002 Winter Olympics.

The system, with 23 whisper-quiet light-rail cars in operation and another 10 on order for placement in service later in 2001, carries about 18,400 one-way passengers each day. Spaces are now being added to park-and-ride lots along the line, to accommodate riders – some hailing from as far away as Provo.

"Good things can happen when state and federal agencies work together on crucial transportation projects," said Utah Governor Mike Leavitt. "The project has been an unqualified success, coming in ahead of schedule and under budget, with excellent product quality."

Governor Mike Leavitt arrives at the I-15 dedication aboard a street sweeper.

Inset: Left - The TRAX light rail system in operation.

Right - U.S. Secretary of transportation Norman Mineta speaks at the dedication, along with Utah Secretary of Transportation Tom Warne and Governor Levitt.





Artist's rendition of the new cable-stayed bridge now under construction over the Mississippi River at Greenville, Mississippi.

I. Increasing the Nation's Investment in Highways and Transit

America's transportation system, the result of a century of visionary leadership by Congress and resourceful implementation by state and local officials, gives us unparalleled freedom and mobility and a competitive advantage in global markets.

The federal government recognized the importance of surface transportation early in the nation's history, and began providing financial support for roads and bridges early in the 20th century.

The 1956 creation of the Federal Highway Trust Fund solidified the nation's commitment to a first-rate, integrated transportation network. Created originally to support the construction of the Interstate Highways, the Trust Fund is now the basis of the partnership in which federal funds are used by state and local governments to build and operate highway and transit systems in a shared commitment to mobility, access and economic vitality.

Having successfully completed funding of the 47,000-mile Interstate System, Congress enacted two pieces of landmark transportation legislation.

Beginning with the Intermodal Surface Transportation Efficiency Act (ISTEA) a decade ago, the federal commitment grew to encompass the reality of a seamless, intermodal network requiring not only physical connections, but also linkages across modes and across institutions. In recognition of the need for greater integration, once-rigid federal assistance programs began to give state and local agencies more flexibility in the use of funds and added decision-making authority – not only in terms of which projects are eligible, but also in how to match and leverage federal funds.

Federal transportation programs also were changed to reflect priorities, including environmental protection, community enhancement and access for the disabled, that had not been significant concerns a generation ago. In passing ISTEA, Congress recognized that these new priorities meant that new interests needed to be represented, and collaborative decision-making was increased.



Transportation is pivotal to both our economic success and to our quality of life.

— Norman Y. Mineta, U.S. Secretary of Transportation



Using TEA-21 advanced construction procedures, CALTRANS expedited work on the Caldecott Tunnel and other projects valued at \$750 million.

ISTEA also introduced investment focused on demand-management programs, value pricing, integrated incident management programs and a host of intelligent transportation system initiatives. Together, these initiatives are complementing the construction and maintenance activities that have been at the heart of the federal commitment to surface transportation.

In 1998, bipartisan majorities in Congress affirmed and built upon ISTEA's transformations when they reauthorized federal highway and transit programs through 2003 by passing the Transportation Equity Act for the 21st Century (TEA-21). The efforts of Congressional leaders resulted in legislation that:

- ❑ Substantially increased federal investment in our highway and transit systems at a time when aging infrastructure and growing travel demands threatened the system's ability to serve the nation;
- ❑ Restored the "trust" in the Trust Fund by guaranteeing that federal revenues collected for transportation purposes will in fact be used for transportation improvements; and,
- ❑ Strengthened the long-standing intergovernmental partnership in transportation by providing state and local officials with greater flexibility in how they can invest federal funds.

TEA-21's highway and transit programs are now at the midpoint of their six-year authorization cycle. This report documents how state and local governments are implementing these programs to meet current and emerging highway and transit needs. This report illustrates that state and local officials—in cooperation with FHWA and FTA—are putting TEA-21's increased federal funding to work creatively and effectively. It highlights the benefits that are beginning to flow from TEA-21's increased investment. It summarizes the transportation challenges that remain as we anticipate extending our commitment to the nation's highway and transit network, when TEA-21's programs must be reauthorized in 2003.



Alaska's Whittier auto and train tunnel under construction.

The only way to relieve congestion is to increase capacity. That may mean building more highways, transit systems, airports and railroads, or making it possible for existing facilities to be more efficient. I think we need to do both, and the federal government must lead the effort.

— Rep. Don Young, R-Alaska

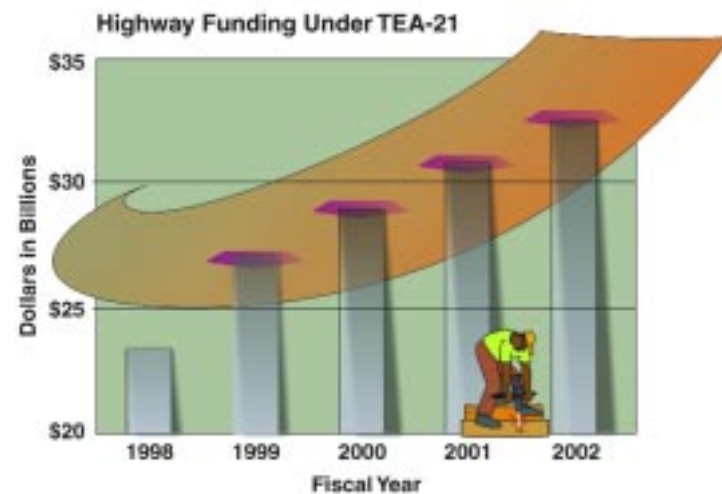
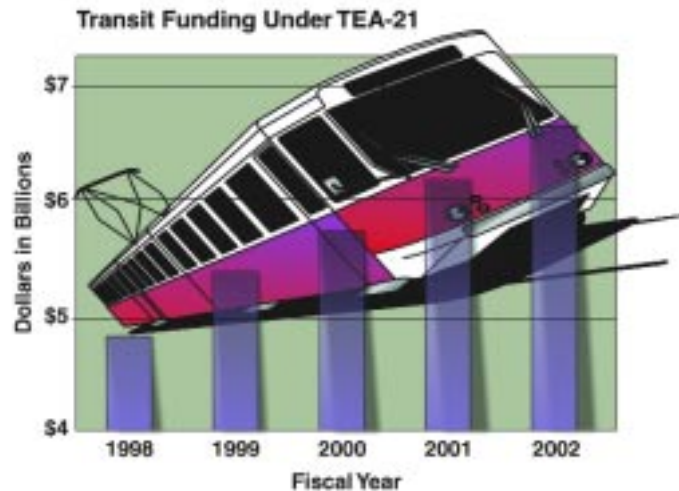
Meeting the Need for Increased Investment

Evidence mounted during the 1990s that even ISTEA's enhanced investment was not enough to meet growing travel demands while also maintaining the condition of existing highways and transit systems.

With its passage of TEA-21, Congress substantially increased federal investment in surface transportation. Key provisions of TEA-21's six-year commitment include:

- ❑ \$171.1 billion for highways and bridges, an increase of more than 40 percent in funding than for the previous six years;
- ❑ \$41.0 billion for public transit, an increase of more than 30 percent in funding for the previous six years.

The creation of firewalls to guarantee that Trust Fund monies are used for transportation; Revenue Aligned Budget Authority, or "RABA," which mandates that federal gas tax revenues that exceed projections must be used for transportation, adding \$4.5 billion for TEA-21 highway projects in 2000 and 2001 alone; and a transit funding guarantee that ensures more predictable support for public transportation.

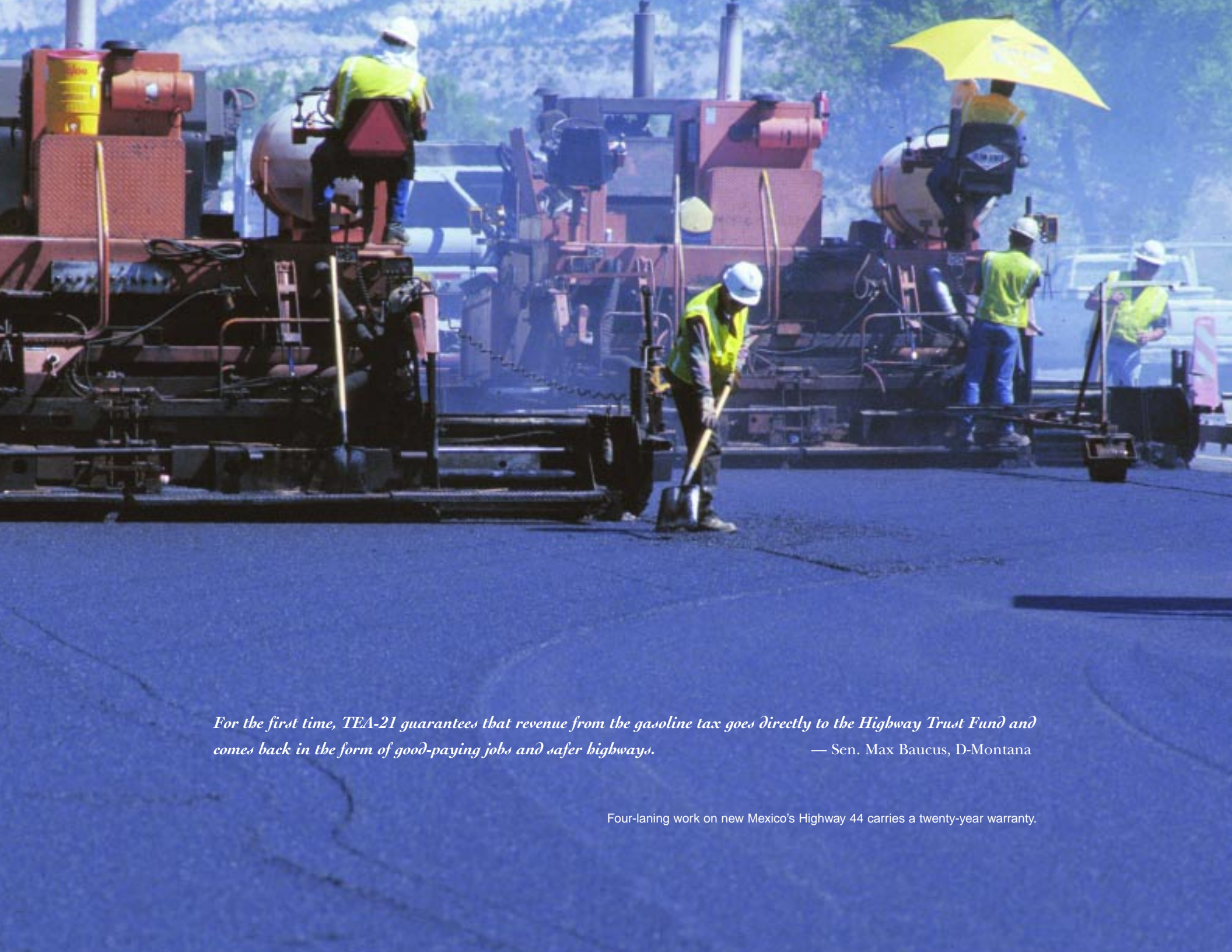


I am pleased that under TEA-21, modernization of existing transit systems is accelerating, and 194 new or expanded rail and bus rapid-transit lines were authorized in more than 40 states.

— Sen. Paul Sarbanes, D-Maryland



With a Brazilian-style samba marching band leading the way, an enthusiastic crowd celebrates the grand opening of the City of Portland's downtown streetcar service.



For the first time, TEA-21 guarantees that revenue from the gasoline tax goes directly to the Highway Trust Fund and comes back in the form of good-paying jobs and safer highways.

— Sen. Max Baucus, D-Montana

Four-laning work on new Mexico's Highway 44 carries a twenty-year warranty.

Making the Most of TEA-21's Funding Increases

The increase in federal funding made possible by TEA-21 has prompted expanded investment, faster project implementation and innovations in financing, building and operating transportation facilities. States and localities are putting in place aggressive new transportation funding measures to fully invest newly available federal funds and accelerate critical, often-delayed projects:

- ❑ In Illinois, Governor George Ryan's five-year "Illinois First" initiative makes available \$10.5 billion for highways and \$4.1 billion for transit;
- ❑ In California, Governor Gray Davis and the state legislature authorized \$8 billion for a congestion-relief program, which when matched with federal and local funds will commit \$23 billion to 141 projects.

Increased funding is helping agencies build needed projects. One key indicator is the number of bids let, and TEA-21 has enabled states to step up their activity:

- ❑ Texas let more than \$3 billion in bids in 1999, up from \$1.7 billion in 1996; and,
- ❑ Wisconsin let \$597 million in bids in 1999, up from \$414 million in 1995.

Increased transit funding has helped boost transit ridership to record levels.

TEA-21 has been critical in helping public transportation address mobility issues. As ridership continues to flourish, it is clear that our increased investment is paying enormous dividends. With growing demands, it is clear that our commitment to future transportation investment must grow as well.

— Ronald J. Tober, Chairman, American Public Transportation Association



A bus operator at Pace in Illinois takes time to share a special moment with a young passenger. More than 300,000 individuals are employed in the public transportation industry in the U.S.

New Life for New Transit Starts

TEA-21's revitalized new start program has spawned a dramatic and timely resurgence in the planning and construction of new rail transit systems throughout the country to meet burgeoning travel demands and mounting congestion in major urban corridors. Under widely varying conditions, they are being delivered on schedule, under budget and are drawing riders at levels that substantially exceed initial forecasts. Both longer commuter rail services as well as urban area rail systems are being rapidly advanced as part of this renaissance in rail transit.

Funding for nearly 200 new or expanded rail and bus rapid transit projects is authorized for 88 areas in more than 40 states under TEA-21. Yet, even with increased TEA-21 support for new starts, and new innovative financing, design and construction techniques, success has overtaken the program and the demand for new systems and state-of-the-art rail travel options has outstripped the resources available in the current program.

MetroLink, St. Louis, MO

A 17.4-mile extension of the original 17-mile MetroLink light rail system was opened in May between St. Louis, MO and St. Clair County, IL. The extension, including eight new stations, was completed ahead of schedule and under budget, and has already begun to serve as a springboard for development along the alignment.

There is a real rail renaissance taking place across America, as more and more cities recognize the very significant benefits that passenger rail delivers in reducing congestion, providing mobility choices and fostering economic development. Most significantly, TEA-21 authorizes some 200 rail projects, a clear indication of the strong support for increased investment in passenger rail infrastructure. Public transportation ridership is at the highest level in forty years, and passenger rail projects around the country are an important part of that success story.

— Peter M. Cipolla, First Vice Chair, APTA



Southwest Light Rail Line, Denver, CO

The Denver RTD Central Light Rail Line was opened in 1994 on schedule and within budget, attracting riders 39 percent of whom were new transit riders. A second line, the 8.7 mile Southwest Light Rail Line was opened in July 2000, also on schedule and within budget. Initial ridership soared to 14,000 per day, far exceeding the initial forecast of 8,400. The overwhelming ridership on light rail in Denver has proven once and for all that light rail works, that it helps reduce traffic congestion and that people are more than willing to give up their cars to ride an alternate transit mode. (Cal Marsella, RTD General Manager). Construction is now underway on a 1.8 mile spur linking major sports and entertainment venues, and a 19.2 mile combined highway/light rail project, dubbed T-REX, is in advanced planning for I-25, the most congested highway in the state.

Green Line, Washington, D.C.

The 103 mile Washington Metro heavy rail system was completed in January with the opening of the final five stations along 6.5 miles of the Green Line. The final section of the regional system was completed at a savings of \$139 million under the \$900 million budget and has drawn crush loads far in excess of forecast ridership.

VTA Light Rail, San Jose, CA

The Tasman West light rail line was opened for service in December 1999, one full year ahead of schedule and on budget. The line has received awards for design creativity and sensitivity to neighborhood environs, but the larger story lies in the response from riders. Within three weeks of opening, ridership had reached 90 percent of what had been projected as the first year's annual average by the Santa Clara Valley Transportation Authority. In May 2001, 1.9 miles of a planned 4.8 mile eastward extension was opened for service.

TEA-21's promise was clear three years ago. Today, that potential is being realized through improvements in virtually every significant aspect of transportation.





Orange County's hybrid electric transit buses use energy efficiently and improve air quality.

II. The Value of Increased Transportation Investment

The transportation improvements that TEA-21 makes possible are moving us in the right direction, providing us with wide-ranging benefits and enhancing our economy and our quality of life.

Enhanced Safety and Security

Safety is the top priority for transportation decision makers at all levels of government. TEA-21 gives them resources to eliminate conditions that cause accidents and to make improvements that reduce accident severity and increase rider safety. We already see improvements in key indices:

- ❑ the highway fatality rate per 100 million vehicle miles traveled has declined from 1.7 to 1.6 during the last five years;
- ❑ transit safety and security for riders has improved;
- ❑ alcohol-related traffic fatalities have declined, from 57 percent of all traffic deaths in 1982 to 38 percent in 1999; and
- ❑ seat-belt use is at an all-time high of 73 percent, up from 50 percent in 1990.

TEA-21's safety investments are preventing thousands of fatalities and injuries and saving billions of dollars in medical costs, lost productivity and property damage. However, increases in travel are offsetting the decline in the fatality and injury rates. We need to join with FHWA, FTA and NHTSA to build on the progress made so far under TEA-21, especially as travel continues to increase.

John Twaddle, a high school student in Elk River, Minnesota, lost his life when he was struck by a car crossing Highway 169 next to his school. His parents and local officials immediately began working with me to install lighting and fencing to direct kids to the signal crossing, and later to use TEA-21 funds for pedestrian bridge and other safety improvements. I have little doubt we have saved other young lives in Elk River with these changes.

— Rep. James Oberstar, D-Minnesota



Minnesota's Elk River pedestrian overpass demonstrates the value of TEA-21's safety emphasis.



Preservation of America's crucial transportation resources is a legacy of TEA-21.

The next generation of traffic and transit safety designs and technologies is already being tested and introduced:

- ❑ yellow-green fluorescent warning signs better alert drivers to potential accidents;
- ❑ “rumble strips” at the pavement’s edge can reduce run-off-the-road accidents by up to 50 percent;
- ❑ rider-to-driver communications systems are creating safer, more secure transit service; and
- ❑ roundabouts and other traffic-calming devices are reducing injuries and fatal crashes by up to 50 percent.

Improved Condition of Highway and Transit Infrastructure

During the 1980s and early 1990s, the condition of pavement, bridges and transit vehicles and facilities began to deteriorate from age and poor maintenance. TEA-21 has reversed this trend, enabling states and localities to dedicate greater funding to preserving the system. The results are already clear:

- ❑ the mileage on the National Highway System with acceptable ride quality has increased from 91.6 percent in 1996 to 93.8 percent in 2000;
- ❑ the number of bridges on the National Highway System classed as deficient has decreased from 25.8 percent in 1996 to 21.5 percent in 2000; and
- ❑ since 1997, the average age of buses has fallen from 8.7 years to 7.3 years; of light-rail vehicles, from 21.8 years to 17.8 years; and of van-pool vehicles, from 3.3 years to 2.1 years.

TEA-21 has funded research which is developing and testing asphalt and concrete which lasts far longer.

In Philadelphia SEPTA has begun the \$370 million reconstruction of the Market Street Transit Line, exemplifying TEA-21's emphasis on preserving existing facilities.

— Rep. Robert Borski, D-Pennsylvania



Projects like the Secaucus Transfer Station signal a new day in rail transit.

Although we have turned the corner, we have not eliminated the backlog of needed maintenance. We need to expand reinvestment in our existing system even as we add new facilities, new services and pursue research to develop new technologies.

Enhanced Mobility and Choice

As traffic increases, congestion on our roads is becoming a problem not only in cities but also in towns and rural areas. Moreover, the increasing popularity of transit has triggered ridership increases of more than 20 percent in the past five years, and ridership records are being set in each succeeding quarter, causing capacity shortages.

We must expand transportation capacity to meet growing demand.

With the leadership of FHWA and FTA, the seeds of continuing progress have been planted:

- ❑ highway investment is increasingly targeted at major projects that fill critical gaps in the road network and clear bottlenecks;
- ❑ \$6.5 billion has been flexed from highway programs to transit since 1992 using the flexible funding provisions of TEA-21 and its predecessor, ISTEA. Half of that has been invested since TEA-21's passage;
- ❑ funding for small urban and rural transit systems in all 50 states has nearly doubled, and ridership is up 15 percent in just three years; and
- ❑ operations initiatives, including better management of incidents and work zones, are improving traffic flow as well as safety.



The 'Spaghetti Bowl,' a seven-bridge I-15 interchange near downtown Las Vegas, was rebuilt through use of innovative construction techniques and contractor incentives. Completing this project six months early helped the fastest-growing community in America keep up with traffic. — Sen. Harry Reid, D-Nevada

Environmental streamlining can bring significant capacity to our transportation system while addressing the needs of the environment and the concerns of environmental regulators. By working together and making the best use of time in reviewing environmental effects, regulators can help citizens stay mobile.

— Rep. Thomas Petri, R-Wisconsin

Even with these improvements, our highways and transit have little capacity to spare. We must renew our commitment to preserving existing capacity, adding to our travel options and better linking the various transportation modes in the years ahead.

Streamlining: Work has begun. Much more is needed.

One of the hopes of TEA-21, as yet unfulfilled, was to speed up the process of environmental review and project approval, which has increased from three to eight years on average. While U.S. DOT has negotiated a memorandum of understanding with other federal agencies and some promising pilot projects are underway, frustration continues at the lack of progress.

Even if we have the resources and the political will, we can't get new projects built if we can't get them approved. The approval process for new highway projects has broken down. It takes too long. It costs too much. It's too complex. And it's too easily sidetracked by small groups of determined opponents.

— E. Dean Carlson, Secretary, Kansas Department of Transportation, President, AASHTO

The I-93 partnering project in New Hampshire, the first of its kind in the country, will demonstrate how environmental streamlining will help solve the problem of unnecessary delays in transportation projects. It will become a model for other projects across the nation.

— Sen. Bob Smith, R-New Hampshire





Improvements in intermodal connectors, border and corridor projects, and freight terminals under TEA-21, help move America's goods.

Support of Economic Growth

Our economic fortunes are tied directly to how well our transportation network moves people and goods. In fact, the federal government's role in interstate commerce partly inspired its early commitment to supporting transportation. Transportation represents 11 percent of the United States Gross Domestic Product, and closer to home, it represents 18 percent of household expenses.

We can boost our competitiveness by reducing congestion, cutting travel times and lowering transportation costs. Independent analyses confirm this; the return on public investment in highways has been twice that of private capital, and the economic benefits of transit investment are three to nine times greater than the costs.

These economic impacts flow not only from major new construction projects but also from other TEA-21 advances:

- ❑ electronic clearance systems at truck weigh stations reduce delivery delays in 21 states;
- ❑ nearly 400 innovative transit services in virtually every state link workers with employment as a result of the new Jobs Access and Reverse Commute Program; and
- ❑ \$368 million has been committed to 170 projects along strategic borders and corridors in 35 states to speed the movement of goods throughout North America.

In enacting ISTEA and TEA-21, Congress also sought to spur economic growth by applying strategies common to the business world, including a series of innovative financing and credit programs. These programs help support large projects that feature revenue streams able to support loans and related financing mechanisms.

- ❑ More than \$132 million in federal Transportation Infrastructure and Financing Innovation Act (TIFIA) loans have leveraged more than \$5 billion in "megaproject" investments in 2000 and 2001 alone.
- ❑ Five states have issued nearly \$1 billion in Grant Anticipation Revenue Vehicle, or GARVEE, bonds that provide for federal payment of debt service out of normal annual federal aid.

Through 2000, 172 loan agreements in 32 states valued at \$2.3 billion have been approved using State Infrastructure Banks to accelerate construction of roads, bridges and transit facilities.



TEA-21 Projects Support Growth in International Trade

Bridge improvements are under way in Laredo, Texas and Detroit, Michigan to support major north-south corridor improvements.

Construction of the \$2 billion Alameda Corridor rail project, routing fast-growing Pacific Rim trade from the Ports of Los Angeles and Long Beach to destinations in the East, was made possible by a \$400 million FHWA loan.

The federal role in guiding and leveraging transportation improvements in support of economic growth is sharper and stronger. But, to remain competitive as a nation and to achieve economic security as individuals, we must continue to provide adequate investment in our transportation network.

Protecting Communities and the Environment

Transportation, like all human activity, cannot help affecting the environment. However, under TEA-21 and its predecessor, ISTEA, we are balancing transportation improvements with the need to protect the environment and the character of our communities. TEA-21 provides state and local officials with new ways to achieve and maintain this balance. In community after community, the results are encouraging.

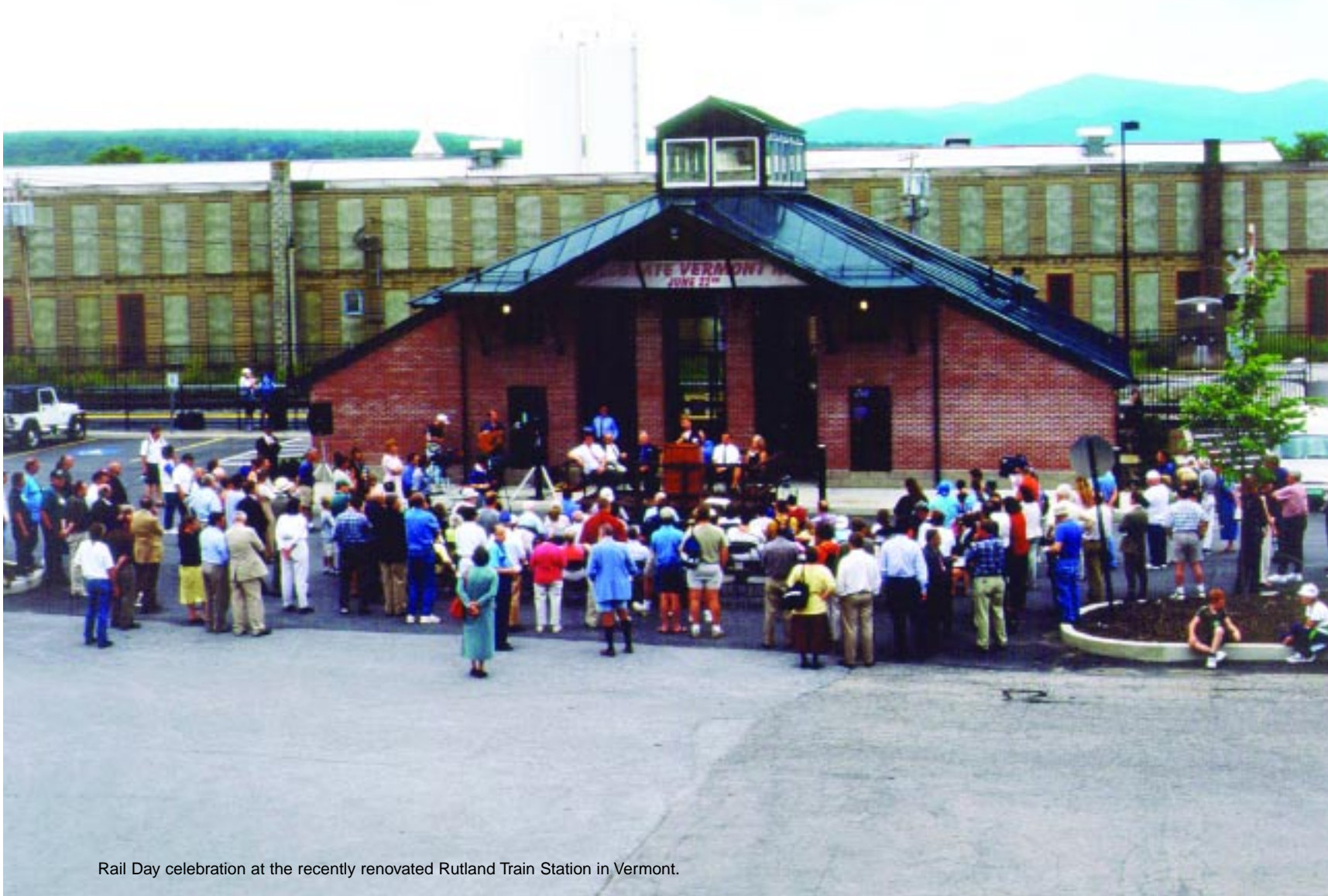
- ❑ We breathe cleaner air because Congestion Mitigation and Air Quality Improvement (CMAQ) Program funding has been increased 35 percent under TEA-21 and is available to more communities. (Since 1970, key auto emissions have been reduced 45 percent – 60 percent.);
- ❑ TEA-21 funded \$3.8 billion in transportation enhancements such as bike paths and the preservation of historic train stations in 12,440 communities.
- ❑ Connecticut, Kentucky, Maryland, Minnesota, Utah and New Jersey are using context-sensitive design to create projects that better fit community needs.
- ❑ New transit and shared-ride services are making it possible for visitors to experience national parks in an environmentally sensitive manner.

Thanks to a cooperative effort between Kentucky, Tennessee, and the federal government, a dangerous two-lane road through the Cumberland Gap which dated back to the time of Daniel Boone was replaced with a modern, four-lane tunnel that has saved lives by improving the safety and mobility of travelers and commercial vehicles in Appalachia.

— Rep. Hal Rogers, R-Kentucky

TEA-21 provided additional funding to protect both our natural environment and our communities. However, continuing to balance the pressure of economic growth and development with clean air goals and the protection of open space will require increased effort, resources and creativity..

— Sen. Jim Jeffords, I-Vermont



Rail Day celebration at the recently renovated Rutland Train Station in Vermont.



Area families sign a poster at the dedication of the Danville Bridge in Pennsylvania.

TEA-21 Gives State and Local Officials the Flexibility to Meet Local Needs

CMAQ funds are being used for projects as diverse as Boulder, Colorado's "Hop and Skip" transit shuttle services, and fiber optic-based Interstate Traffic Management Programs in Texas and Kentucky.

Transportation "enhancement" projects support varied projects: bicycle and pedestrian improvements along the Dixie Highway in Florence, Kentucky; town square redevelopment and landscaping in Jacksonville, Alabama; and access to scenic and historic sites such as Colorado's Georgetown Loop Railroad.

TEA-21's Transportation and Community and System Preservation (TCSP) Pilot Program has awarded \$91 million to 199 projects that enhance the environmental friendliness and efficiency of the transportation system.

Public Perspectives Point the Way

The traveling public clearly sees TEA-21's benefits. Recent Federal Highway Administration surveys show that 65 percent of highway users are "satisfied" or "very satisfied" with the condition of roads they frequent, an increase from the 50 percent level recorded in 1995. However, the public has continuing concern about system performance, especially traffic flow and mounting congestion.

Congestion characterizes more than 32 percent of daily travel in major urban areas;

It takes 26 percent longer on average to make a trip in peak hour than in the off-peak, and perceptions of the delay are even greater; and

The cost per driver of congestion in major urban areas exceeded \$625 in 1997, totaling more than \$78 billion in wasted time and wasted fuel.

These problems underscore the need for continued investment to enhance travel. Such measures include traffic-flow improvements such as reduced repair time, faster clearance of accidents, and improved signal timing; additional highway travel lanes; and improved public transportation.

As we work in collaboration with our state and federal agency partners and citizens, we are expected to take our transportation and environmental performance beyond basic customer satisfaction and compliance.

— Bradley L. Mallory, Secretary, Pennsylvania Department of Transportation

III. Making a Difference: Works in Progress from Around America

The benefits of TEA-21 are apparent in projects making a difference across the country:

Providing more transportation

TEA-21 has provided more transportation facilities, services, equipment and technology than ever before.

Improving transportation

TEA-21's programs improve transportation safety, enhance system condition, expand travelers' choices, and involve more stakeholders in decision making.

Spurring smarter transportation solutions

TEA-21 generates smarter transportation solutions—friendlier to the environment and communities and often implemented faster than before.

Creating better linkages in our transportation system

TEA-21 opens doors between modes of transportation and among those who build and operate them.

Offering greater funding and financial leverage

TEA-21 is attracting more partners and greater financial resources—both public and private—to meet transportation needs.

Encouraging more collaboration

TEA-21 fosters citizen and stakeholder involvement in decision making.

Inspiring more innovative transportation solutions

TEA-21 is engendering a new era of innovation in planning, design, materials, construction techniques, operations, management systems and technology.

The projects that follow illustrate how TEA-21 is making a difference in communities throughout the country.





the projects

Fayette Station Bridge Reconstruction, West Virginia

West Virginia's Fayette Station Bridge, which crosses the New River and had been closed since 1977, has been restored to its original 19th century splendor with an award-winning environmentally and historically sensitive approach. Although the reconstruction was carried out on an expedited schedule, much of the original structure was salvaged and renovated and the remainder was matched to original specifications.

CalTrans Advance Construction Procedures, California

CalTrans recently expedited \$750 million in projects using TEA-21 Advance Construction procedures. These projects include Caldecott Tunnel drainage system repairs, Golden Avenue/State Route 125 sound walls and seismic retrofits, and replacements of more than 1,300 bridges. The projects are getting under way ahead of schedule, delivering results years early.



Florida ITS "SunGuide" Integration Initiative

SunGuide will provide Miami-Dade, Broward and Palm Beach counties with real-time travel information using intelligent transportation system (ITS) technologies advanced by TEA-21. By giving travelers accurate and timely information about traffic and transit conditions, the 11-agency partnership will help to reduce congestion. Because it uses private providers, SunGuide will become self-sufficient in three years.

Smart Growth Strategies in Maryland

Maryland is using \$450,000 in TEA-21 funds to demonstrate how Smart Growth principles and innovative transportation policies can preserve communities, reduce congestion and protect the environment. Pilot programs will focus on an urban area that seeks to spur redevelopment and a suburban or exurban area that wishes to control sprawl development. Partners include the Environmental Defense Fund, Chesapeake Bay Foundation and the Baltimore Urban League.

Greenville Bridge, Mississippi

The 60-year-old Mississippi River crossing near Greenville has long been a key part of the Delta Region's transportation network, but is now an antiquated bottleneck. Work will begin in 2001 on a new, \$206 million four-lane replacement that will be the longest cable-stayed span in the continental United States. Expected to reduce congestion at the river, the new bridge also is designed to be far safer for heavy barge traffic on the river.



Montana's US 93 Improvements

Montana's US 93 corridor links one of the fastest growing areas in Montana with Interstate 90 and provides for regional trade movements from British Columbia in the north through to the Southwest U.S. It is also the gateway to Glacier National Park. Important progress has been made under TEA-21 on the 110 miles of planned improvements worth over \$250 million. The reconstruction of 5.8 miles of the corridor to a divided four-lane standard was developed with input from a citizen advisory committee and includes avoidance of historic properties, use of an abandoned railroad for a bike and pedestrian trail and a design that avoids wetlands and prime and unique farmlands. In the southern part of the corridor, eight miles of US 93 was totally reconstructed to a four-lane design including unique community entrances park and ride lots, bike and pedestrian paths throughout, landscaped entrances to the cities, pedestrian underpasses and multiple wildlife crossings.

New Mexico Highway 44

New Mexico Highway 44 is the primary trade and tourist route to the state's northwest quadrant, and is crucial to economic development. A 120-mile stretch is being widened to four lanes using TEA-21 design, construction management and financing ideas. This project, which ordinarily would have taken 27 years to build, is slated for completion in just three years. Accelerated construction and innovations such as a first-in-the-nation 20-year warranty and the use of GARVEE bonds will save more than \$100 million.



Neighborhood Revitalization in St. Louis, Missouri

Bi-State Development Agency's MetroLink light rail stations have become catalysts for revitalization in St. Louis County. Near the Wellston Station, a factory is being transformed into a center for industrial job training and placement. TEA-21 funding is helping to complete a child-care center adjacent to the station that will let trainees drop off their children while in classes.

Washington State FAST Corridor

The ports of Tacoma and Seattle are crucial links to domestic and overseas markets, but their growth has overwhelmed the web of highways and rail lines that connect them to the rest of the country. Phase one of the FAST Corridor program is a \$400 million, 15-project effort that will use TEA-21 funds to eliminate traffic delays and speed cargo movements through overpasses, dedicated rights-of-way, expanded rail facilities and other improvements.



Arizona State Route 87

Route 87 is an important link between Phoenix and recreational opportunities along the Mogollon Rim and the White Mountains. Important to commerce, Route 87 also is in the heart of the scenic Tonto National Forest. More than 50 groups collaborated on an environmentally and visually sensitive approach to widening Route 87 that has become the standard for future roadway improvements within the Tonto National Forest.

Reno Transportation Rail Access Corridor, Nevada

This 2.25-mile transportation corridor involves construction of a below-grade transportation corridor with two rail lines, an access road, new bridges and replacement of at-grade crossings. It will improve safety and reduce congestion in downtown Reno while also enhancing a vital freight corridor. The \$242 million cost will be funded through a \$79.5 million TIFIA direct loan made available through TEA-21 and a bond issue backed with revenue from hotel and sales-tax revenues.

Central Texas Turnpike Project

A new, 122-mile turnpike will connect Austin with San Antonio, relieving congestion, improving safety and supporting trade. It will be built as a six-lane controlled-access highway with electronic toll collection, deploying the state's first interoperable electronic toll-collection system. The toll revenues will help pay project debt, including an \$800 million TIFIA direct loan made possible through TEA-21.

PennDOT Highway and Bridge Construction

TEA-21, together with additional state funding, has allowed Pennsylvania to nearly double highway and bridge construction to more than \$1.3 billion annually. About 160 bridges were repaired or replaced annually before TEA-21: That number is now up to 200 annually and is expected to reach 300 bridges within two years.

Silver Line Bus Rapid Transit, Boston

The Massachusetts Bay Transportation Authority's Silver Line bus rapid-transit line opens in 2002 and will connect Roxbury with Logan Airport. Using 60-foot-long articulated buses powered by compressed natural gas on surface streets and electricity in a mile-long downtown tunnel, the Silver Line will be among the nation's most environmentally friendly transit lines. The Silver Line also will apply ITS technologies, including real-time electronic message signs at stops.

Central Link Light Rail, Washington

Sound Transit's Central Link, a 24-mile light-rail system slated to open in 2006, will link Sea-Tac Airport to Seattle's University District via the city's business district. Central Link is a crucial element of a regional mass-transit system approved by voters, including express buses, commuter trains, HOV lanes, park-and-ride lots and transit centers throughout the central Puget Sound area.



City of Portland Streetcar Service

On July 20, 2001, the City of Portland, Oregon launched a downtown streetcar service. Streetcars will carry an estimated 5,000 daily passengers over a two and four-tenths mile route. Stops along each route are located every two or three blocks. The project is an excellent example of a successful public-private partnership. Property owners along the route provided \$9.6 million of the \$56.9 million project costs. With a Brazilian-style samba marching band leading the grand opening, more than 50,000 people rode the streetcars on the weekend of its inaugural service.



CNG Buses, Los Angeles, California

The Los Angeles Metropolitan Transportation Authority has added hundreds of new buses powered by clean-burning compressed natural gas since TEA-21's passage. Once beset by pollution problems, Los Angeles' air quality has been improving in recent years, partly because of the MTA's growing fleet of more than a thousand compressed natural gas-powered buses—the largest in the nation.

Dallas Area Rapid Transit System Expansion

Carrying nearly 40,000 riders daily, the Dallas Area Rapid Transit (DART) light-rail system has been one of the fastest growing in the nation. To meet current and projected demand, DART has begun building extensions to suburban Garland and Plano. The new lines, secured with a federal Full Funding Grant Agreement, will add an additional 23 miles, more than doubling the existing system.

Hudson-Bergen Light Rail Line, New Jersey

New Jersey Transit used an innovative design-build-operate-maintain contract authorized by TEA-21 to build the Hudson-Bergen Light Rail system with speed and value. This method lets a bidder design and build a transportation project, then operate and maintain it for a fixed period. The first 7.5-mile, 12-station segment of this system opened in 2000, linking Bayonne and Jersey City. Other parts are under construction.

Huntington Intermodal Facility, West Virginia

Huntington, West Virginia's TEA-21-funded Intermodal Transportation Facility will be in the center of the city, as a transfer point for local and interstate buses, taxis, private cars and bicycles. A new shuttle service will link the center with Marshall University. Financed with \$26 million in federal funding, the facility will reduce traffic and increase economic development in the downtown.

Orange County's Hybrid Electric Buses, California

The Orange County (California) Transportation Authority's new hybrid electric transit bus uses a combination of battery and propane power to improve fuel economy, lower emissions and reduce noise. The bus's technology lets it operate in three separate modes, each guaranteeing maximum energy efficiency and minimal environmental impact.



J.F.K. AirTrain, New York

AirTrain, a light-rail system being built by the Port Authority of New York and New Jersey, will provide fast, convenient and dependable surface access to and within John F. Kennedy International Airport. The 8.1-mile system will link J.F.K.'s airline terminals, car rental agencies and parking with commuter rail and subways.

NextBus Travel Information, California

Santa Barbara and San Francisco's MUNI have installed NextBus, an Internet-based communications system. It uses Global Positioning System links to predict and relay the real-time status of buses and other transit vehicles. Travelers can access this information through personal computers, wireless devices and digital displays installed at bus stops, train stations and other public places. NextBus will give riders crucial information while helping system operators reduce service delays.

New York Subway Station Rehabilitation

New York City's two-decade-old subway station rehabilitation program has been given new life under TEA-21. The program, managed by the Metropolitan Transportation Authority, is renovating the city's 469 subway stations, improving structure, aesthetics and security. The subway station program complements the purchase of new rolling stock, renewal of the signal system, replacement of more than 700 miles of track and installation of a new automated fare-collection system.

Reverse Commuting in Washington, D.C.

The Washington Metropolitan Area Transportation Authority (WMATA) Metrobus began reverse commute service between downtown Washington and the burgeoning Dulles Airport corridor in suburban Virginia. The new service, part of TEA-21's commitment to expanding access to mobility, reduces transportation barriers for the working poor and helps welfare recipients and low-income earners travel to suburban job centers.

Secaucus Transfer Station, New Jersey

Construction is underway on the \$450 million Secaucus Transfer Station, a hub that links 11 of New Jersey Transit's 12 northern New Jersey rail lines. When it opens in 2002, the station will let passengers whose trains terminate in New Jersey transfer to trains to midtown Manhattan, increasing the convenience and appeal of commuter rail.



Internet Trip Planning System, Southern California

Transtar, a new, online trip-planning service offered by the Southern California Association of Governments, enables commuters to customize itineraries in English or Spanish for travel anywhere in the region. Transtar, accessible via the Internet, interactive kiosks or call centers, includes schedules for 600 bus, rail and Amtrak lines and provides walking maps and directions.

Trinity Railway Express, Texas

Developed by the Dallas Area Rapid Transit and the Fort Worth Transportation Authority, the Trinity Railway Express links downtown Dallas with Tarrant County. This new commuter rail service, the largest regional cooperative venture since the Dallas/Fort Worth International Airport a generation ago, is the first modern commuter-rail line in the southwest. Service to downtown Fort Worth, the Fort Worth Intermodal Center and the Texas & Pacific Station will begin in 2001.

Waco Transit Terminal, Texas

The new Waco Transit Terminal is a nerve center for regional transportation, linking Waco Transit buses, Greyhound Bus Lines, the Brazos Trolley, Centex Senior Ministry vans and HOTCOG rural buses. Funded through federal and state grants and a contribution from Greyhound, the new facility makes transfers convenient, increasing transit's appeal.

Washington Metropolitan Area Transit Authority SmarTrip Fare System

The Washington Metropolitan Area Transit Authority developed SmarTrip, the first "contactless" smart-card system for mass transit in the U.S. SmarTrip is an automated, rechargeable fare-payment card that lets travelers enter parking garages and Metrorail trains without standing in line or making any cash transactions. Uses are automatically recorded on a central server and deducted from the traveler's account. Extension of the service to buses serving the Maryland and Virginia suburbs is in the works.



Whittier Dual-Use Auto and Train Tunnel, Alaska

Alaska's Whittier Tunnel, which gives trains access to the remote town of Whittier by turns with cars and trucks, will allow travel by as 531,000 people and up to 140,000 vehicles in 2001. Its unique engineering and construction garnered the AASHTO 2000 President's Transportation Award and the Grand Award from the American Council of Engineering Companies in 2001. The \$70 million project included an access road and retrofit of an existing 2.5 mile-long Alaska Railroad Corp. tunnel. Toll charges are expected to cover \$3.8 million in yearly operating and loan-repayment costs.

Looking Ahead to Reauthorization

As this report makes clear, TEA-21, to date, has been a stunning success. AASHTO and APTA look forward to working with Congress to build on these achievements. Among our highest priorities will be preserving the funding guarantees provided in TEA-21, securing a level of investment adequate to meet highway and transit needs, and streamlining the project approval process.



encouraging more collaboration

strengthening our economy



For more information about TEA-21 successes, please visit:
the AASHTO web site – <http://www.transportation.org/tea-21success>
or the APTA web site – <http://www.apta.com>



American Association of State Highway and Transportation Officials
American Public Transportation Association