Federal Highway Administration FY 2003 Performance And Accountability Report

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Letter from the Administrator

In my fiscal year 2003 Accountability Contract with Transportation Secretary Mineta, I pledged to steer the Federal Highway Administration (FHWA) towards achieving the following Vital Few priorities:

- Promoting public safety by reducing significantly the number of transportation-related deaths and injuries, as well as the probability and potential severity of surface transportation incidents and crashes.
- Improving the surface transportation system by easing congestion bottlenecks and ensuring that system capacity is added, trip time reliability is improved, and transportation time for the individual user from origin to destination is reduced.
- Improving environmental decisionmaking processes in order to expedite surface transportation projects, while minimizing their impact on the human and natural environment.

We made good progress this year in implementing strategies that we believe will achieve these priorities over the next few years. For example, we see more interest among our partners in employing a comprehensive highway safety planning approach that focuses additional resources on reducing fatal crashes caused by roadway departures, at intersections, or involving pedestrians. With our state and metropolitan partners, we conducted assessments of traffic congestion management practices that led to an increased level of collaboration and brought a more strategic focus to addressing the causes of congestion. We accelerated our longstanding environmental



stewardship and assisted our state partners with exemplary ecosystem improvements. We provided training, funding, and technical support to a growing number of states to adopt context sensitive solutions for highway projects. Under a Presidential Executive Order, we expedited 13 priority projects through environmental reviews, successfully graduating 4 of the projects, and expanded the number of programmatic agreements that smooth the way for good project decisions.

In addition to these developments, we continued to promote safety belt use, encourage innovative speed management practices, and support collaborative approaches to improving highway safety with our partners. We promoted and deployed intelligent transportation systems (ITS) including ITS infrastructure in metropolitan areas and regional architectures, and increased public access to the 511 Traveler Information telephone number. We fostered the use of innovative pavement and bridge technologies that extend service life while reducing costs, and encouraged the use of accelerated construction practices. We contributed to a net gain in wetlands and provided record level funding for bicycle and pedestrian improvements. We assisted the Transportation Security Administration in efforts to keep our national transportation system safe and secure. Internally, we placed more emphasis on project oversight and stewardship, particularly for major infrastructure projects. We continued to monitor and focus more efforts on increasing our staff capabilities. Finally, we implemented a Federal-aid partner survey nationwide and continue to look for ways to improve partner and customer satisfaction.

The recent trends and results in 2003 for key performance measures are presented in this Report. While the results suggest that we may have fallen short of the annual performance targets for some of the DOT and FHWA strategic goals, we will continue to strive to achieve these goals and objectives. We have accepted these important challenges, but our ability to achieve results depends on cooperation and support at all levels of government, and among all Americans. I encourage you to contact one of our offices if you have any ideas or suggestions as to how we can improve upon our performance and meet the responsibilities that the American people have entrusted to us.

Mary E. Peters Federal Highway Administrator

SUMMARY OF ACCOMPLISHMENTS

The following discussion summarizes Agency progress towards achieving the national goals and objectives, including the Vital Few. Progress is reported for each of the 21 national performance objectives in the Federal Highway Administration (FHWA) Administrator's fiscal year (FY) 2003 Executive Accountability Contract and the FHWA Performance Plan.

The actual results, and recent trends from 1998-2003, are reported against the targeted outcomes for each performance measure. A description of each performance measure is provided beginning on pp. 23 of the Report.

GOAL: SAFETY

In 2002, approximately 2.9 million people were injured and 42,815 were killed in highway-related crashes. While the number of fatalities was the highest since 1990, the number injured continued to decline. The highway fatality rate continued to decline also, albeit at a slower rate than in the past decade.

Safety	1998	1999	2000	2001	2002	2003	Target
Highway Fatalities	41,501	41,717	41,945	42,116	42,815	N/A	38,800
Highway Fatality Rate, as fatalities per 100 million vehicle-miles-traveled	1.58	1.55	1.53	1.51	1.50	N/A	1.40
Highway Injuries, in thousands	3,192	3,236	3,189	3,033	2,914	N/A	3,070
Highway Injury Rate, as injured persons per 100 million vehicle-miles traveled	121	120	116	109	102	N/A	109
N/A: Data will be available in mid-2004.							

The FHWA is concentrating on reducing the most frequent types of fatal crashes: 38 percent of all fatalities occur in roadway departure crashes, 20 percent occur in crashes in or near an intersection. and 11 percent are pedestrians involved in a crash. A comprehensive self-assessment was undertaken in all of the states, the District of Columbia, and Puerto Rico, that resulted in a better understanding of where each state could strengthen efforts in these areas to reduce fatal highway crashes. The self-assessment also provided baseline information that was used to develop measurable performance targets. As an example, the assessment revealed that 7 states have implemented a high-quality, datadriven comprehensive safety plan and that it might be possible to increase this number to 10 or more in FY 2004

Reduce Fatalities Involving Roadway Departure Crashes (Vital Few).

Greater use of roadside hardware was promoted to prevent and mitigate the impact of run-off-the-road

crashes. By the end of FY 2003, highway agencies in 33 states had adopted policies consistent with the Agency's roadway shoulder rumble strips technical advisory. The FHWA continued to emphasize the need for state Departments of Transportation (DOTs) to replace non-crashworthy hardware, such as turned down ends on the National Highway System (NHS), and to implement a program to replace damaged hardware with crashworthy hardware.

The FHWA served as a national clearinghouse for the identification of suitable crashworthy roadside hardware. Amendments to the Manual on Uniform Traffic Control Devices were proposed that include methods to maintain traffic sign retroreflectivity, a measure that increases the brightness and visibility of traffic signs to drivers. The Agency supported research and technology transfer efforts to implement the interactive highway safety design model, an evaluation software package that marshals available knowledge about safety into a more useful form for highway planners and designers.

Finally, efforts began to encourage states and local communities to use the road safety audit tool to identify roadway safety issues.

Reduce Intersection-Related Fatalities (Vital Few).

Numerous activities were completed that raise awareness of intersection safety and educate DOTs on the need for intersection safety plans. Seventeen states had adopted an Intersection Safety Plan based on the National Agenda for Intersection Safety by the end of FY 2003. The FHWA issued guidance for *Using Red Light Cameras* to inform community officials about the development and operation of proper programs. A series of briefs were developed on various intersection safety topics, such as traffic control devices and work zones at intersections.

Reduce Pedestrian-Related Fatalities (Vital Few).

The FHWA is cooperating with DOTs, industry, academia, and advocacy organizations to increase consideration of pedestrian and bicyclist safety in all transportation projects. At the end of FY 2003, pedestrian safety programs were established in 2 of the 10 communities with the highest pedestrian fatality rates. In addition, FHWA partnered with state and local governments to showcase and evaluate new and innovative pedestrian safety technologies in Las Vegas, Miami, and San Francisco; developed a prototype pedestrian expert system to assist safety practitioners in problem solving; and, developed and disseminated interactive pedestrian safety information and materials such as the *Safer Journey* Interactive CD.

Support National Safety Strategies, Including An Increase In Seat Belt Use (Vital Few).

The FHWA promoted seat belt use at sponsored web sites, in correspondence and newsletters to targeted audiences, and public information campaigns. Agency officials continued to refer to the need and safety benefits of "Buckling Up" in public speeches and events. Also, FHWA generally supported seat belt and alcohol safety legislative initiatives included in the proposed Safe, Accountable, Flexible and Efficient Transportation Equity Act (SAFETEA) legislation.

Speed management workshops held in Massachusetts, Missouri, and Nevada provided a multidisciplinary forum for addressing issues in setting and enforcing realistic speed limits. The FHWA completed a field operational test of variable speed limits in work zones, and two more tests are in various stages of deployment. Cooperative agreements were initiated for the final wave of demonstration projects on setting and enforcing rational speed limits later this year. The Agency also completed testing of a web based expert system that will be used by traffic engineers to set reasonable, safe, and consistent speed limits. Working with the Institute of Transportation Engineers, FHWA drafted an informational brochure for public officials and the general public explaining the importance of setting realistic and safe speed limits.

The FHWA continued to foster effective partnerships with the American Association of State Highway Transportation Officials (AASHTO), the American Traffic Safety Services Association, the International Association of Chiefs of Police, and other interested organizations to ensure a comprehensive approach to improve highway safety. Safety conscious forums were held to promote safety in state and local planning programs. The Agency continued to support the implementation of the AASHTO strategic highway safety plan. By the end of FY 2003, 32 states had volunteered to participate as lead states to develop implementation plans for specific safety strategies, based on guides developed by AASHTO and the Transportation Research Board.

The FHWA conducted on-site roadside design training in 6 states, reaching approximately 200 attendees. An educational video for law enforcement officers impressing the importance of collecting timely and accurate crash data was distributed to help improve safety data and records.

GOAL: MOBILITY AND PRODUCTIVITY

Traffic congestion on our nation's highways has increased over the past few years. Recent trends suggest that periods of recurring congestion are getting longer, particularly in urban metropolitan areas. In addition, congestion is no longer restricted to peak commuting periods and weekday travel. The FHWA measures traffic congestion nationwide by estimating the percentage of daily traffic in urbanized areas that is moving at less than free-flow speeds. By this measure, traffic congestion was 30.4 percent, which was below the projected increase to 31.1 percent in FY 2002. The FHWA is focusing on mitigating both recurring and non-recurring causes of congestion.

Mobility and Productivity	1998	1999	2000	2001	2002	2003	Target
Highway Congestion, percent of congested travel	28.3	29.0	29.3	30.4	30.4	N/A	31.6
Overall User Satisfaction, percent of total respondents			66			N/A	N/T
N/A - Data will be available in late	2004.						

Further deploy Intelligent Transportation Systems (ITS) infrastructure and sustain improvements to system operating practices.

To ensure that technologies can work together smoothly and effectively, the FHWA continued to focus on establishing the technical and institutional framework needed for deployment of the ITS infrastructure. One hundred and twenty regional ITS architectures were completed and an additional 133 regional architectures are currently under development. Also, FHWA and the ITS Joint Program Office provided training and assistance to partner agencies in developing regional ITS architectures and in understanding how to properly use and maintain them once developed. Thirty-five regional architecture training courses and workshops were held during 2003.

An integrated ITS infrastructure in a metropolitan area provides significant advantages in reducing congestion through improved operations. As such, progress in achieving greater integration serves as a leading indicator of progress in congestion mitigation. The number of metropolitan areas with a medium or high level of deployment increased from 57 to 61 in FY 2003. The FHWA will continue to work aggressively with each of the 14 remaining metropolitan areas to reach the long-term goal of 75 areas with a medium or high level of deployment by January 2006. In addition, 85 projects in the ITS Integration Program

were approved during FY 2003, most of which support the goal of deploying integrated ITS infrastructure in metropolitan areas.

The FHWA awarded 44 planning grants to regions throughout the U.S. in order to continue the deployment of 511—the traveler information telephone number. With the AASHTO-led 511 coalition, the Agency developed guidelines and provided technical assistance and information through various means including a national 511 conference. The 511 telephone number is now accessible to about 16.5 percent of the Nation's population.

Implementation of the Intelligent Transportation Infrastructure Program continued in Chicago, Providence, Boston, San Diego, and Tampa. This program will eventually lead to the deployment of an infrastructure to support traveler information services in up to 21 metropolitan areas. Thirty-five states received funding assistance to improve the transportation component of their Amber Alert Assistance Program.

The FHWA released the Freight Analysis Framework (FAF) database of commodity flows and highway capacity. The FAF contains commodity flows and county-to-county traffic flows for 1998, by highway, rail, air, and water mode, as well as projections for 2010 and 2020

It also estimates highway usage and capacity for all vehicles and trucks for 1998, 2010 and 2020. Several DOTs requested briefings and assistance regarding the use of the FAF to analyze freight movements within their state and region. In addition, FHWA provided data and analysis for other studies and policy determinations within the Federal Government examining future freight movement in the U.S.

The FHWA initiated a new Freight Professional Development Program consisting of training, technical assistance tools, university-based programs, and a freight resource library. A series of *Talking Freight* web-based conferences were launched in July to reach state DOT and Metropolitan Planning Organization (MPO) staff at their desktops. This innovative approach proved to be an efficient way to exchange information between public and private experts and practitioners on specific freight topics. The FHWA developed a new course, called *Integrating Freight in the Transportation Process*, and began developing another course in high demand, *Freight Data and Forecasting*.

Mitigate overall impacts of congestion through effective local partnerships (Vital Few).

The FHWA sought to increase awareness and commitment by all regional transportation agencies to the use of congestion partnerships. A Regional Transportation Operations Collaboration and Coordination primer was developed for use by the FHWA field offices and regional transportation agencies in this effort. The FHWA Division Offices engaged regional transportation agencies in collaborative activities including 511 deployments, ITS architecture implementations, regional traffic incident management partnerships, work zone mobility initiatives, and congestion management system activities. A congestion partnership assessment tool was developed. It will be used to establish a national performance baseline for the 75 largest metropolitan areas in the U.S. in FY 2004.

Reduce work zone delay by ensuring that all states, the District of Columbia, Puerto Rico, and Federal Lands Offices are engaged in aggressively

anticipating and mitigating congestion caused by highway work zones (Vital Few).

The FHWA embarked on a major effort to assist DOTs in evaluating the state-of-the-practice in order to raise awareness of and commitment to innovative work zone congestion and crash mitigation strategies. A comprehensive self-assessment was undertaken in all of the states, the District of Columbia, and Puerto Rico, which resulted in increased understanding of work zone issues and provided valuable insight as to how the DOTs attempt to reduce the incidence of delay and crashes associated with work zones. The assessment is based on progress towards full integration in six areas of practice--leadership and policy, project planning and programming, project design, project construction and operations, communications and training, and program evaluation. Of the six components, the national results indicate that communication and education and project construction and operation practices are most active and fully developed. Practices targeted for future improvement include program evaluation, leadership and policy, project planning and programming, and project design.

To continue facilitating peer exchange and introduce practitioners to new strategies and technologies for mitigating work zone impacts, the Agency reported the experiences of four states in incorporating ITS into work zones. The FHWA released information on the use of full road closures while performing road rehabilitation and reconstruction work. A series of outreach workshops, titled Making Work Zones Work Better, was initiated with the DOTs to highlight the use of ITS and full road closure strategies, as well as other promising work zone technologies and practices. Seven workshops were successfully presented and the Agency used the input to identify opportunities where FHWA can support broadly applicable improvements to work zone operations. Also, the FHWA published a proposed rule on work zones that explores broadening the existing regulations to include a requirement for state work zone mobility and safety policies, consideration of work zone impacts, and identification of work zone impact mitigation strategies. Significant outreach to our partners was conducted in conjunction with the publication of the proposed rule.

Reduce traffic incident delay by ensuring that all states, the District of Columbia, Puerto Rico, and Federal Lands Offices are engaged in aggressively anticipating and mitigating congestion caused by traffic incidents (Vital Few).

Similar to efforts that focused on congestion in work zones, 71 comprehensive self-assessments of incident management practices were undertaken by FHWA and its partners in 64 of the top 75 congested urban metropolitan areas. A study of various types of performances measures used to evaluate the progress of traffic incident management programs around the country was completed. The assessment focuses on three areas of practice--program and institutional issues, on-scene operational issues, and communications and technology. The results revealed that on-scene operational issues were receiving the most attention, while program and institutional, and communication and technology issues were areas where significant improvements can be made.

Other activities related to reducing traffic incident delay were undertaken. With FHWA assistance, a traffic incident management work plan was written for the vehicle towing and recovery industry. The purpose of the document is to facilitate the understanding of traffic incident management programs within the industry and encourage tow operators to involve themselves in programs. A traffic incident management workshop was pilot tested and will be available in FY 2004. Under the auspices of the National Fire Services Incident Management System, a model procedures guide for highway incidents was completed that addresses on-scene incident command and control protocols for traffic incidents. A Computer-Aided Dispatch (CAD)-ITS field operational test began in Utah and Washington. It will provide for the integration of data among transportation management ITS and public safety CAD system databases in order to make rapid exchange of unambiguous incident-related information possible.

Improving the condition of pavement and bridges is critical to the structural integrity and cost effectiveness of the transportation system. The NHS represents just 4 percent of total highway miles, but carries 1 trillion, or approximately 43 percent of, vehicle miles traveled (VMT) annually. Drivers in the U.S. cross deficient bridges more than one billion times each day. While the 115,000 bridges on the NHS are in better condition than the total U.S. inventory of approximately 590,000 bridges, a significant number are still either structurally deficient or functionally obsolete. Progress was below expectations during 2002, primarily because of conditions in a small number of states.

Mobility and Productivity (continued)	1998	1999	2000	2001	2002	2003	Target
NHS Pavement Condition, as percent of VMT with acceptable ride quality	89.8	90.5	90.9	90.9	90.6	N/A	92.5
NHS Bridge Condition, as percent of deck area on deficient bridges adjusted for average daily traffic	32.6	31.9	30.8	30.6	29.9	30.2	27.5
Non-NHS Bridge Condition, as percent of deck area on deficient bridges adjusted for average daily traffic	32.5	32.0	32.6	32.3	31.9	31.8	29.7
N/A - Data will be available in 200-	4.						

Improve and expand the National Highway System to increase system efficiency and return on investment.

The FHWA continued to focus on promoting preventive maintenance management systems and improved pavement preservation technology. The Agency developed pavement smoothness standards for use during highway construction, which are being considered by AASHTO as provisional standards. The FHWA also published reports on hot-mix asphalt pavements and Portland Concrete Cement pavements that highlight preferred measurement and construction practices to improve pavement smoothness.

The FY 2002 annual target for pavement condition was not met because a small number of states with significant traffic volume reported a deterioration of pavement condition when compared to prior years. Discussions were held with the states having poorer pavement smoothness condition, and the AASHTO Joint Task Force on Pavements, to discuss specific strategies to improve their performance. Despite this shortfall, travel on NHS pavement rated in good condition, measured by a reported International Roughness Index (IRI) of 95 inches per mile or less, increased from 49.3 to 50 percent from FY 2001 to FY 2002.

The Agency continued to develop and promote innovative technologies that improve pavement durability, extend the service life, reduce costs, mitigate congestion, and reduce work zone duration. In this effort, 17 workshops on various pavement and materials related technologies were conducted. A technical advisory was distributed and four more were prepared for distribution next year. The FHWA asphalt and concrete mobile laboratories visited 14 states to provide guidance and technical assistance. A 6-week Highway Materials Engineers course was delivered to representatives of 21 states. Finally, FHWA hosted in-house workshops for over 50 FHWA pavement engineers to deliver the latest technical information and tools to perform their duties. Two states were identified that employed three or more innovative technologies to improve pavement smoothness. These include pavement smoothness specifications, a non-contact inertial measurement of pavement profiles, an incentive program for smoothness construction, the use of AASHTO

smoothness performance measurement specifications, or a pavement preservation program. An additional 11 states were identified for further effort in FY 2004.

Some states were able to use Highway Bridge Replacement and Rehabilitation Program funds for preventative maintenance on existing bridges, actions that should slow the rate of bridge deterioration and extend their useful service life. The FHWA developed an Advance Notice of Proposed Rulemaking for the highway bridge replacement and rehabilitation program, which encourages the use of bridge management systems that will enable states to better manage their bridge assets. A Notice of Proposed Rulemaking (NPRM) will be issued in FY 2004. Also, the FHWA issued a NPRM for new national bridge inspection standards that will enable states to improve the quality of bridge inspections and improve the quality of data in the National Bridge Inventory (NBI).

Through the innovative bridge research and construction program, 57 bridge replacement and repair projects were delivered in 40 states and one project in Puerto Rico. These projects utilize high performance, low maintenance structural materials to provide bridges that are longer lasting and require less maintenance. By the end of FY 2003, 37 states were employing 2 or more innovative bridge materials—including high performance concrete, high performance steel, fiber-reinforced polymer composites; corrosion-resistant concrete reinforcement, high performance coatings for structural steel, and innovative cathodic protection anodes.

The FHWA employee teams provided the expertise required to help successfully conduct a series of Accelerated Construction Technology Transfer (ACTT) workshops. A bridge project mini-workshop was held in New Jersey, a 2-day workshop was held on a major interstate interchange project in Texas, and pre-workshops were held in Connecticut, California, and Montana. The FHWA staff made numerous presentations on ACTT concepts both internally and to the AASHTO working subcommittees and the AASHTO technology implementation group.

GOAL: HUMAN AND NATURAL ENVIRONMENT

Before their value was fully recognized, many of the Nation's wetlands were adversely affected or lost in the development of highway and transportation facilities. In 1993, a national policy on wetland protection was established that called for no net loss of wetlands in federally funded projects. Since then, FHWA has exceeded a minimum target of 1.5 acres of wetlands per acre directly affected by Federal-aid highway projects on a program-wide basis. In FY 2003, the wetland mitigation ratio was 2.7:1.

The FHWA encourages ecosystem-related initiatives that are either unique in geographic scope, apply innovative scientific and technological practices, attain a high level environmental standard, achieve a high level of results, or are recognized as particularly valuable from an environmental perspective. In addition, FHWA promotes integrated approaches to multi-modal planning, the environmental review process, and project development at a systems level, as well as the use of context sensitive solutions (CSS) at a project level. In FY 2003, FHWA identified 3 new exemplary ecosystem initiatives bringing the overall total to 8. The FHWA recognized eight states as having fully adopted CSS that took into account many environmental aspects and seven states that have adopted integrated planning approaches.

Human and Natural Environment	1998	1999	2000	2001	2002	2003	Target
Project Wetlands Protection and Recovery	2.2	2.3	3.8	2.1	2.7	2.7	1.5
Exemplary Ecosystem Initiatives					5	8	8
Context Sensitive Solutions					5	8	8
Integrated Planning Approaches					7	7	N/T
N/T – No target was established.							

Enhance knowledge of FHWA staff in areas of ecosystem and habitat conservation; showcase existing exemplary initiatives (*Vital Few*).

Agency staff increased their knowledge in areas of ecosystem and wildlife conservation through a wide range of activities. As an example, the FHWA sponsored the International Conference on Ecology and Transportation, which featured discussions about leading-edge science and technology for the ecological aspects of transportation development. Conference participants from state DOTs, resource agencies, academia, and private environmental organizations were provided with a critical opportunity to interact during these sessions. The FHWA prepared and distributed the results of the European Wildlife SCAN tour of 2001, which were also published in *Public* Roads magazine, and continued to offer training and technical assistance on ecology and wildlife related topics.

The FHWA provided assistance to state DOTs and showcased exemplary ecosystem initiatives by

demonstrating ecosystem management in 8 states, which accomplished outstanding examples of environmental stewardship. The Colorado Shortgrass Prairie Conservation Initiative was a recipient of a FHWA Environmental Excellence Award. Other exemplary ecosystem initiatives were featured on the FHWA web site.

The Agency will identify at least 22 more initiatives in the next 4 years across 12 additional states or Federal Lands Highway Divisions. The FHWA distributed guidance and criteria to its partner agencies to aid in the identification, selection, and promotion of these initiatives.

The FHWA continues to coordinate wetlands programs and research initiatives with Federal agencies including the Environmental Protection Agency (EPA), the Department of the Interior, the Department of Commerce, the Department of Agriculture, and the U.S. Army Corps of Engineers. The FHWA, EPA, and

the Corps of Engineers released guidance on exercising preferences for the use of mitigation banks under the Section 404 permitting process, which is one of the first actions completed under the National Wetlands Mitigation Action Plan.

Increase the number of states implementing Integrated Approaches and/or CSS by providing training and guidance (Vital Few).

The FHWA recognized three additional states--New Jersey, Louisiana, and South Carolina--as states that fully adopted CSS, increasing the number from five to eight. The FHWA continued to work on research and implementation measures to improve the quality of transportation decisionmaking and strategies. These measures will improve the link between transportation planning and the environmental review process. The Agency's long-term objective is to have integrated planning approaches and/or CSS adopted in all 50 states, the District of Columbia, Puerto Rico, and the Federal Lands Divisions by FY 2007.

Fourteen additional states have been identified as nearing full CSS implementation. The FHWA is focusing efforts on these 14 states to further their application of the CSS/context sensitive design (CSD) concept to the project development process. The FHWA cultivated integrated approaches to multimodal planning, review, and project development.

Examples include the development of a context sensitive urban street design guide, contracting for a training course, and development of a web site to provide state and local transportation agencies as well as others with a comprehensive source of information on CSS/CSD.

In addition, the Agency developed a CSS/CSD component in project development training. Agency staff made numerous presentations in various forums and training seminars. The FHWA provided funding to develop a CSS training program in Washington State. The FHWA is partnering with AASHTO to develop a training program throughout the U.S., as well as a comprehensive marketing plan for promoting CSS/CSD concepts.

The National Ambient Air Quality Standards (NAAQS) address major pollutants that are among the most serious airborne threats to human health. Transportation is a major contributor for some of these pollutants, particularly ozone, and particulate matter. From 30 to 56 percent of all emissions related to these pollutants originate from on-road vehicles, depending on the pollutant. Total on-road mobile source emissions have declined from 87.4 million tons in 1988 to 61.9 million tons in 2000. Tighter standards for ozone and particulate matter emissions are anticipated in FY 2004.

Nonetheless, areas with a nonattainment or maintenance designation are required to meet transportation conformity requirements in the Clean Air Act. Transportation conformity ensures that emissions from planned transportation activities are consistent with clean air goals of the area, and will not create new violations of the NAAQS, increase the frequency or severity of existing violations, or delay the attainment of the NAAQS in designated nonattainment or maintenance areas. During FY 2003, the number of areas in conformity lapse, without a conforming plan and transportation improvement plan, was 6 out of a total of approximately 130 areas.

Human and Natural Environment (Continued)	1998	1999	2000	2001	2002	2003	Target
Transportation Conformity Lapses					6.0	6.0	≤ 6.0
On road Mobile Source Emissions, in Million Tons	66.927	63.98		N/A	N/A	N/A	61.800
Percent Nonattainment and Maintenance Areas Meeting Mobile Source Emissions Goals, Ozone	90	93	98	97	98	97	98
Percent Nonattainment and Maintenance Areas Meeting Mobile Source Emissions Goals, PM-10	96	100	100	94	96	94	86
Percent Nonattainment and Maintenance Areas Meeting Mobile Source Emissions Goals, CO	96	96	97	100	100	92	96
N/A - Data will be available in late	e 2004.						

Achieve reductions in on-road mobile source emissions.

From 1970 to 2000, mobile source emissions decreased 48 percent for carbon monoxide, 28 percent for nitrogen oxides, 50 percent for coarse particulate emissions, and 65 percent for volatile organic compounds. Further emissions reductions are anticipated in 2001 thru 2003 when data are available, and in future years, due to the introduction of low sulfur gasoline and diesel fuels as well as tighter engine emissions standards.

As of July 2003, the percent of metropolitan areas designated as nonattainment or maintenance that had met their on-road mobile source emissions budgets was 97 percent for ozone (90 out of 93 areas), 92 percent for carbon monoxide (49 out of 53 areas), and 93.5 percent for particulate matter (29 out of 31 areas). The percentages were down slightly from the same time in the previous year. Some areas had difficulty meeting their established budgets because the EPA placed new vehicle emissions factor model requirements in effect. Others were unable to meet the budgets that were established in State Implementation Plans using the older emissions factors model. In each area, FHWA worked with its partners to meet conformity and to ensure transportation projects would not be significantly delayed as a result.

The FHWA worked with the EPA and the Federal Transit Administration (FTA) to revise the existing conformity regulation to reflect a significant court ruling and to clarify and improve the transportation conformity process. Some nonattainment and maintenance areas may face challenges attaining new air quality standards for ozone and fine particulate matter when the EPA publishes a final rule in 2004. As a result, further reductions in pollutant emissions from transportation sources may be required. In anticipation of the implementation of new ozone and more stringent particulate matter standards, the FHWA is working with the EPA and the FTA on a separate conformity rule revision for the implementation of the new air quality standards. The EPA expects to publish the new standards rule by April 2004, and would allow newly designated nonattainment areas under the new standards to rely on the 1-year grace period before conformity applies.

The FHWA completed a transportation conformity scan at 6 nonattainment and maintenance areas to document and share experience and practices in meeting conformity requirements. In cooperation with the Association of MPOs, FHWA formed an Air Quality Subcommittee to address specific conformity issues faced by Metropolitan Planning Organizations (MPOs) on emissions modeling issues and emerging issues related to the new air quality standards.

GOAL: NATIONAL HOMELAND SECURITY

The highway system is not only critical to the Nation's economic vitality and quality of life, it also plays a key role in every emergency event. The transportation system must function in order to evacuate threatened populations, allow first responders to get to the scene, facilitate the movement of supplies into and out of the area, and restore mobility in the days and months after the event. The FHWA seeks to improve transportation security and support national defense mobility through collaboration with the Department of Homeland Security as well as other Federal, state and local government partners, and private industry. The goal is keep our national transportation system operating and ensure that users are safe and secure.

Identify critical highway infrastructure, evaluate its risk and vulnerability, and develop measures to reduce vulnerability.

The FHWA assisted the Department of Homeland Security in developing critical infrastructure assessment and vulnerability reduction models. These models are critical to the development of cost effective measures that improve the performance of existing bridges, the design of new structures that can better withstand blast impacts, and the development of rapid repair techniques that can restore serviceability following a terrorist event.

The FHWA teamed with the AASHTO to develop a report with recommendations regarding the need for a programmatic approach to infrastructure security, as well as identifying funding and future research and development needs. Coupled with previous work in the area of vulnerability assessment and emergency response guidance, the report was distributed to help state and local officials implement measures that deter, disrupt, mitigate against, and respond to attacks on their vital assets.

In cooperation with the U.S. Army Corps of Engineers, FWHA developed a workshop to provide bridge design professionals and bridge and tunnel owners the tools to evaluate and protect their critical and vulnerable assets. In addition, FHWA and the Corps of Engineers committed to jointly work on improving computer modeling of structural reactions to blast induced loadings and to develop design tools that bridge engineers can use to harden structures to resist attack. Agency experts provided technical assistance to state and local governments in the application of state-of-the-art practices related to bridge and tunnel security. The FHWA also initiated a study to identify state-of-the art bridge surveillance and security technologies for bridges and tunnels.

The FHWA participated in a Department of Homeland Security steering committee directing a major security initiative designed to track all entries into and exits from U.S. ports of entry, including airports, seaports, and the land border ports. The Agency provided information on planned transportation improvements and associated costs for roadways approaching ports of entry. Also, FHWA is a member of the Border Station Partnership Council (BSPC), a coalition of Federal agencies working on port of entry issues to provide a common voice on border station management. The BSPC developed the Border Wizard micro-simulation model, which can test scenarios at land border stations to guide decisionmaking in facilities planning. The FHWA co-sponsored a workshop for state DOT and MPO modeling experts to discuss the software's potential applications for the transportation community, and its integration with travel demand models and other transportation modeling tools.

The FHWA was very active in addressing North American border security issues through the U.S./ Canada Transportation Border Working Group (TBWG) and the U.S./Mexico Joint Working Committee. The U.S./Canada TBWG identified security as an area of focus by assisting with critical infrastructure protection projects, operation safe commerce, and bi-national electronic-seal testing.

Ensure preparedness for response to, and recovery from, malevolent attacks on highway infrastructure.

With the Transportation Security Administration (TSA), the FHWA initiated a series of ongoing multimodal emergency response and recovery exercises in major metropolitan areas.

These exercises, which resulted in a draft highway incident management protocol, brought together the transportation, police, fire, emergency medical, public health, emergency management, intelligence, and military communities to review highway response and recovery plans.

To further improve multi-agency response in responding to a major disaster, recommendations were developed to enhance incident scene voice communications interoperability for transportation agencies. In addition, demonstrations were conducted in key cities of automated incident data exchange between transportation management and public safety organizations, and communications interoperability and data exchange between transportation and other responders. Security guidelines addressing agencyowned telecommunication systems, transportation management centers, and transportation information systems were developed and/or revised. In the important area of evacuation, funding was provided for two demonstrations of advanced evacuation modeling, and a study of methods for developing alternate routes around damaged or destroyed critical transportation infrastructure was initiated.

The FHWA sponsored and actively participated in 11 emergency response-planning workshops in major metropolitan areas throughout the U.S. By the end of the year, emergency planning was enhanced at 21 of the top 30 metropolitan areas identified by the Department of Homeland Security as being at risk of a terrorist attack. The Agency also undertook several initiatives in support of transportation security, including the identification of information needs to better manage transportation systems following a major disaster; demonstration of ITS technologies that can be used to detect and deter terrorist attacks on transportation infrastructure, as well as advanced technologies to enhance communications interoperability and data exchange between transportation agencies and other emergency responders in Washington, DC and New York City; and the use of advanced modeling tools for evacuation route planning and automated incident data exchange between transportation management and public safety organizations.

Facilitate military deployment from forts to ports.

Working closely with the Military Traffic Management Command Transportation Engineering Agency, the Agency completed a military deployment coordination exercises in one state with key military installations, referred to as Power Projection Platforms. The program was interrupted by the mobilization for the conflict in Iraq, as military installations across the Nation went to heightened levels of alert, or actively engaged in the movement of troops, materials, and equipment, and were unable to participate in further exercises. Informal reports to date have not revealed any significant highway infrastructure issues that adversely impacted the mobilization.

Initiate research, technology development, and deployment activities in support of a more secure highway system.

The FHWA began an effort to address long-range security research needs of the Agency and its state and local program partners. Some of the future study areas may include research into bridge and tunnel responses to blast induced loadings or possible retrofit options for existing structures and design guidance for new structures that can yield important advances in rapid repair or replacement of damaged facilities. The need to consider options to restore transportation services following a nuclear or biological attack was also recognized, as well as to the extent of decontamination needed before a facility can be reopened to traffic. Another area that was identified is the development of traffic and freight flow simulation models that can be used quickly and with limited data to assess the impact of the loss of a particular facility and identify the optimum alternate route or routes.

Many of the technologies and procedures for improving the efficiency of freight movement also provide a security dividend. For example, electronic cargo seals are currently being tested on containerized freight to move efficiently through port gates and border crossings, as well as provide information regarding the unauthorized opening of container doors. Also, FHWA was a key contributor to public-private outreach efforts that provided invaluable support to the *Operation Safe Commerce* effort led by the TSA. This initiative is designed to stimulate the development of technology and procedural initiatives to enhance cargo security.

GOAL: ORGANIZATIONAL EXCELLENCE

Monitoring the cost, schedule, and performance of Federal-aid transportation infrastructure projects, especially major projects, is critical to identify problems and initiate action to mitigate risks as soon as possible. The FHWA initiated steps to improve its oversight of these projects. By improving program oversight and stewardship, the FHWA will ensure the more cost-efficient use of Federal-aid funds administration and project management, as well as more effective use of funds in terms of the return on investment. In FY 2003, the scheduled milestones and cost estimates from the initial project contract agreements were met for 95 percent of all major projects that FHWA oversees.

The National Environmental Policy Act (NEPA) requires a review of the environmental impacts of projects. More than a dozen other laws specify procedures and substantive requirements that apply to most Federal-aid highway projects. The FHWA promotes management practices that fulfill environmental stewardship and result in timely project delivery. The median time for completing an environmental impact statement (EIS) was 62 months for all projects in FY 2003. While the performance target of 51 months was not met, the median time for all projects was reduced when compared to the prior year.

Organizational Excellence	1998	1999	2000	2001	2002	2003	Target
Major Projects Delivery, as percent of scheduled milestones and cost estimates met for major federally funded infrastructure projects.					85	95	95
Program Delivery, as median time in months to complete an Environmental Impact Statement.	60	66	58	54	80	62	51
Program Delivery, as median time in months to complete an Environmental Assessment.						26	17

Provide stewardship of funds and coordinate efforts to ensure that our partners maintain good accountability for expenditures, particularly for major, or mega-projects.

With respect to major- or mega-projects exceeding \$1 billion in costs, the FHWA identified and implemented steps to mitigate project risks by developing a comprehensive, standard oversight approach that includes monitoring project costs, schedule, and performance. Monthly cost, schedule, and status reports were submitted to the FHWA for all major projects. The FHWA held periodic status meetings with the State Transportation Agency's project management team, the Department modal administrations, and other agencies involved in the project to discuss project costs, schedules, quality issues, and the status of other items. As a result, 95

percent of federally funded major projects met the scheduled milestones and cost estimates established in their project contract agreements during FY 2003. These discussions are of sufficient enough detail to allow the involved parties to recognize significant issues and develop actions designed to mitigate any adverse impacts. As an example, FHWA managers and the Boston Central Artery Tunnel project managers met during the past year on a quarterly basis to discuss cost recovery issues on the project and how to achieve timely resolution to these issues.

The FHWA and the FTA developed guidance for financial reporting on major infrastructure projects. Critical analysis of annual finance plans ensures that complete and consistent reporting of basic standardized financial data is being provided to the Department. The finance plans are useful in

identifying emerging cost and funding shortfalls in projects. Project Management Plans that clearly define project roles, responsibilities, processes, and activities are strongly encouraged. These practices increase the likelihood that a project will be completed on time; within budget; with the highest quality; in a safe manner; and in a manner in which public trust, support, and confidence is maintained. In consultation with project staff, FHWA issued draft project management plan guidance for the Ohio River Bridges major project. Also, FHWA began preparing a project management plan for this major project, which will be included in final guidance for this project and may be used as a model for future major projects. The FHWA also issued a final rule on design-build contracting, which allows, but does not require, contracting agencies to use the design-build project delivery system as an option to the traditional design-bid-build project delivery system.

During FY 2003, the FHWA continued to encourage the use of innovative finance methods to leverage limited Federal funds and to expedite project completion. The FHWA also sponsored the Transportation Research Board Third National Transportation Finance Conference. An example of a project success was the Transportation Infrastructure Finance and Innovation Act (TIFIA) Joint Program Office's execution of a \$140 million loan for the construction of the SR-125 South Toll Road in San Diego. The project was the Department's first partnership with a private, for-profit highway operator. The TIFIA loan proceeds will be combined with equity funds and private bank debt assumed by the operator to construct a \$642 million, 9.2-mile link in the regional freeway network. The highway will accommodate economic growth in southern San Diego County and facilitate traffic and trade across the U.S./ Mexico border. The loan repayment structure adjusts to the financial performance of the toll road, requiring early retirement of the TIFIA debt in the event of profitable project economics.

The FHWA commissioned a review of the DOT's innovative financing techniques, titled *Performance Review of DOT Innovative Finance Techniques*, which was released in FY 2003. The report revealed that an \$8.6 billion Federal investment had resulted in \$29 billion in projects, a ratio almost three times better than the return under a traditional Federal-aid

program. The study also noted that as many as 50 projects were accelerated in their completion, ranging from 6 months to 24 years faster when compared to traditional programs.

The FHWA increased the percentage of obligated funds used for active projects, when compared to total expenditures, to 77 percent, above the target of 73 percent. A one percent increase in obligated funds used is equal to making about \$1.3 billion in federal- aid dollars available for use in other projects. The FHWA reduced the amount of federal- aid funds obligated, but not expended, to \$145 million from \$187 million in FY 2002. This represents a decline from FY 2003. However, the amount has fluctuated considerably with the lowest amount at \$92 million in FY 2000.

Establish timeframes for all current projects requiring EISs or Environmental Assessments (EA). Continue to reduce the environmental processing time for all EIS and EA projects (Vital Few).

The FHWA Division Offices initiated discussions with state Departments of Transportation to establish timeframes for projects requiring an EIS and EA. Negotiated timeframes were highlighted as a discussion topic in six interagency conflict management workshops sponsored by FHWA.

The median time for completing an EIS was 62 months in FY 2003. While the performance target of 51 months was not met, the median time for completing EIS projects was reduced from 80 months in FY 2002. A total of 228 EA were approved in FY 2003. The median time for completing an EA was 26 months, which was above the target of 17 months. A large number of projects initiated over 10 years ago reached a Record of Decision (ROD) during this fiscal year, and the results for these projects were included in the calculation of the median time. These projects resulted in a longer than anticipated processing time for projects overall, yet indicate that the Agency's efforts to promote collaboration and coordination in reaching a decision were successful.

In 2002, President Bush signed Executive Order 13274, *Environmental Stewardship and Transportation Infrastructure Project Reviews*. To meet this directive, 13 priority projects were selected for oversight by an interagency streamlining task force. By the end of FY 2003, 4 of these projects reached final decisions. These successful projects were expedited due to the work of the task force, working closely with the FHWA, state DOTs, and other federal resource agencies. The Executive Order Task Force established three workgroups focused on the topics of Purpose and Need, Cumulative and Indirect Impacts, and Integrating Planning and NEPA.

The FHWA staff participated in several environmental training courses. A revised *NEPA and the*

Transportation Decisionmaking Process course was delivered. The FHWA also sponsored regional interagency conflict management workshops. The Agency funded and assisted in coordinating 14 training courses in the application of context sensitive solutions to transportation projects, and co-sponsored national Environmental Stewardship and Streamlining workshops with the EPA, U.S. Fish and Wildlife Service, and National Marine Fisheries. Guidance related to Indirect and Cumulative Impacts, Purpose and Need, and Dispute Resolution was disseminated. The results of a domestic scan on the tracking of environmental commitments throughout the entire project development process were disseminated to all partners.

Employee job satisfaction is a measure of how well Agency management practices and policies are addressing employee needs and concerns, and a predictor of organizational success in recruiting and retaining professional and experienced staff. The FHWA seeks to ensure that the service it provides and the processes and procedures it implements or uses result in satisfaction among our customers and partners. In FY 2003, a new performance baseline was established from a survey of our key federal-aid partners, the state DOTs and MPOs. The FHWA is committed to improving the quality and value of its highway research and the deployment of technology and innovation. To increase the effectiveness of all FHWA units as well as our partners and stakeholders in determining research priorities and deploying technologies and innovations, the Agency took initial steps to implement its corporate plan for research and deployment of technology and innovation.

Organizational Excellence (continued)	1998	1999	2000	2001	2002	2003	Target
Employee Job Satisfaction		73	80	71	74	69	80
Federal-aid Partner Satisfaction, State DOTs (1 to 5 scale with 5 as very satisfied).						3.55 a)	N/T
Federal-aid Partner Satisfaction, MPOs (1 to 5 scale with 5 as very satisfied).						3.71 a)	N/T

N/T – No Annual Target.

a) The survey results replace the American Customer Satisfaction Index (ACSI) score reported in previous years.

Final results for the annual employee survey showed a decrease in employee satisfaction to 69 percent, from the FY 2002 score of 74 percent. This decrease appears related to concerns regarding the potential impact of competitive sourcing on employee job security and future employment opportunities in the Agency. The concerns were far more pronounced among non-supervisory and lower level employees

than among managers and employees at higher-grade levels. In some areas, the Agency has made significant progress since the initial survey in 2001. For instance, more employees perceive that promotions are based on merit. Still, the downward trend in employee satisfaction is a concern and efforts are being taken to identify and address the underlying issues affecting employee satisfaction.

While employee satisfaction has declined, FHWA was able to maintain employment at greater than 98 percent of full-employment levels. At the end of FY 2003, the Agency employed 2,390 staff out of its full employment level of 2,419 positions. This was achieved despite hiring difficulties encountered during the period that FHWA operated under a continuing resolution.

The FHWA invested an amount for training and development that was equivalent to approximately 2 percent of employee salaries and compensation in FY 2003. This was partly due to a one-third reduction in authorizations for employee training and development. In addition, FHWA operations were limited by several continuing resolutions, which limited the scheduling of employee training to only about 6 months. Under these conditions, meeting the annual target of 3 percent of salaries and compensation was especially problematic.

Establish, implement, and monitor a system of customer surveys, and Agency response to the feedback to improve customer service and satisfaction.

The FHWA initiated an ongoing Federal-aid partner satisfaction survey, which is being used to collect feedback from some agency partners in four stages over 2 years. Two surveys of partners in 26 states were completed in FY 2003. The overall satisfaction score from the two surveys for state DOT and MPO partners was 3.55 and 3.71, respectively (with 5 as very satisfied). State DOT partners were most satisfied with the technical assistance and training provided, while MPO partners were most satisfied with the development of transportation improvement plans. This four-stage survey approach establishes a baseline against which future customer service improvements will be assessed. The results are already being used to initiate discussions to improve FHWA products and services.

Develop and implement the FHWA Human Capital Plan and the Restructuring Assessment Task Force recommendations for Professional Development and Training.

The FHWA created an Advisory Committee to address internal workforce planning issues. A workforce analysis was completed and an initial assessment

of future needs was conducted. A draft Workforce/ Human Capital Plan was completed, which will be included in the DOT Workforce Plan to be released in FY 2004.

Lead and coordinate efforts to effectively perform the role of Innovator for a Better Future, and increase the effectiveness of all FHWA units, as well as our partners and stakeholders, in determining priorities and deploying technologies and innovation.

The FHWA Corporate Master Plan for Research and Deployment of Technology & Innovation (CMP) was released. The CMP includes formal recognition and organization of an Agency R&T Leadership Team, which has the primary responsibility for implementing 26 commitments in the CMP. One of the first commitments was to develop a list of FHWA priority, market-ready technologies and innovations. To this end, a workshop on deploying and implementing the technologies was held jointly by FHWA and AASHTO Technology Implementation Group.

PRESIDENT'S MANAGEMENT AGENDA

The FHWA is committed to implementing the five-governmentwide-reform initiatives in the President's Management Agenda. A summary of our progress during FY 2003 is provided in the following paragraphs.

Budget and Performance Integration. The FHWA continued to take steps to align its budget, system performance, and program management. The FY 2004 budget illustrates the relationships between highway programs, performance goals, performance measures and the contribution the Agency makes to the Department's Performance Plan. Using a corporate dashboard, Agency managers began reviewing system and organizational performance measures on a routine basis.

Strategic Management of Human Capital.

Workforce planning has been a management priority for several years. Recent initiatives included an agency-wide comprehensive skills needs assessment, creation of technical career paths for 12 specialty disciplines, the creation of a workforce planner position, and participation in Department human capital planning activities. As noted earlier, a workforce analysis was completed during FY 2003. A draft Workforce/Human Capital Plan was also completed. The final plan will be included in the DOT Workforce Plan to be released in FY 2004. Since the Agency was restructured in 1998-1999, the impact of these recent efforts on the FY 2003 budget was minimal. An additional 10 positions were requested in the FY 2004 budget submission that will be used to fulfill FHWA's commitment to the oversight of major projects.

Competitive Sourcing. To successfully meet the Office of Management and Budget's 2003 target for competing or directly converting at least 15 percent of all commercial Full Time Equivalent (FTE) positions, FHWA directly converted through attrition 8 field computer specialist positions to contractor performance. The FHWA identified over 800 total commercial FTE in the 2003 FAIR Act inventory, of which approximately 300 FTE are viewed as suitable for competition. These figures represent a significant increase in the number of commercial FTE included in prior year inventories.

Financial Performance. The FHWA implemented the Delphi automated accounting system. State

payments constitute about 96 percent of all FHWA payments, with an error rate of less than 0.1 percent. All other payments are made through the newly implemented Delphi system that issues warnings for improper payments. The Agency is working to implement a managerial cost accounting system in FY 2004 in order to track activities to performance and provide the necessary accounting data into Delphi.

Expanding Electronic Government. The FHWA continued to implement two planned E-Government program initiatives: the Federal Lands Electronic Data Interface for advertising solicitations, distributing requests for proposals and invitation for bids; and the National Highway Institute's e-commerce module for course registration and payment. In addition, the Agency participated in 9 of the 24 Presidential quicksilver project initiatives undertaken with the Department. Policy and guidance for Information Technology Capital Planning was developed.

FINANCIAL HIGHLIGHTS

The Federal Highway Trust Fund (HTF) is the source of funding for Federal-aid Highway and Transit programs. Funds are generated from excise taxes on gasoline, diesel, and other motor fuels, excise taxes related to the sale and use of commercial trucks, and interest. The HTF revenue totaled \$32.604 billion in FY 2002. Approximately 92 percent of the receipts were from excise taxes on fuels. As illustrated in Figure 1, HTF revenues have declined in recent years after a peak of \$35.26 billion in 1999. Still, HTF revenues have increased four-fold since 1980, when receipts were \$7.65 billion.

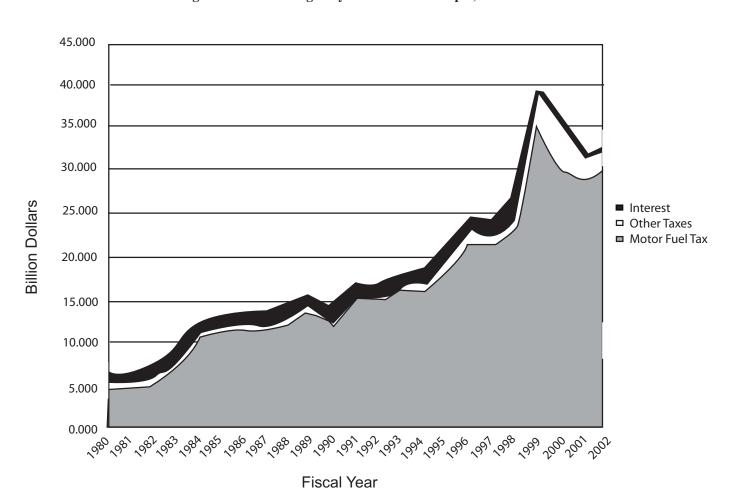


Figure 1. Federal Highway Trust Fund Receipts, FY 1980-2002.

Expenditures during the Transportation Equity Act for the 21st Century authorization period increased significantly, even as HTF revenues declined. As illustrated in Figure 2, this situation has resulted in a decline in the Highway Trust Fund balance to \$22.23 billion in FY 2002, after peaking at \$31.101 billion in FY 2000. The highway account portion of the balance was \$16.136 billion in FY 2002.

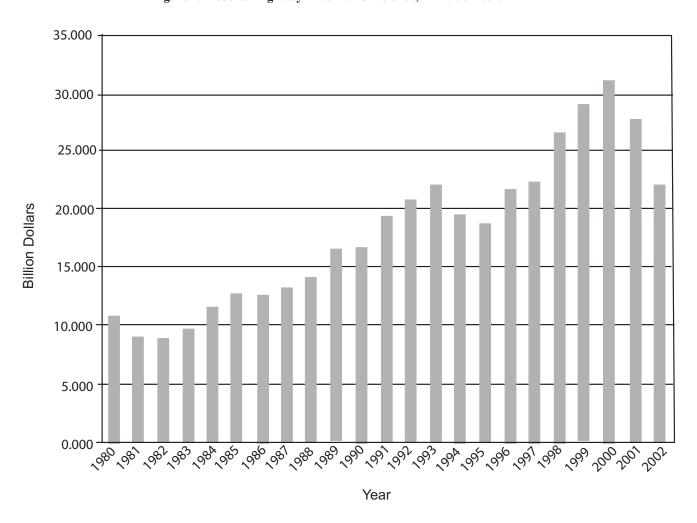


Figure 2. Federal Highway Trust Fund Balance, FY 1980-2002.

As illustrated in Table A, cost outlays (less transfers to Transit, Railroad, Federal Motor Carrier Safety, and NHTSA) were \$31.031 billion in FY 2003. Approximately 59 percent of the Federal Highway portion of the program funds was drawn from Surface Transportation Program (24.4 percent), National Highway System (21.3 percent), and Interstate Maintenance Program (13.4 percent).

TABLE A. Distribution of Federal Highway Program Cost Outlays, FY 2003

(Source: FY 2003 FHWA Financial Statement, less transfers to Transit, Railroad, Federal Motor Carrier Safety, and NHTSA Programs.)

Program Title	Cost (\$ Million)	% Total Program
Surface Transportation Program	7,373.7	24.4
National Highway System	6,414.4	21.3
Interstate Maintenance Program	4,032.8	13.4
Bridge Program	3,318.4	11.0
Minimum Guarantee	2,832.3	9.4
Other Miscellaneous Programs ¹	2,275.8	7.5
High Priority Projects	1,328.5	4.4
Congestion Mitigation and Air Quality	884.4	2.9
Federal Lands Highway	369.6	1.2
Administration	324.2	1.1
Research and Development	242.5	<1.0
Emergency Relief	172.0	<1.0
Woodrow Wilson Bridge	147.6	<1.0
Planning	139.3	<1.0
Safety Programs	127.6	<1.0
Credit Program (TIFIA)	80.1	<1.0
Minimum Allocation	56.4	<1.0
Bureau of Transportation Statistics	35.4	<1.0
State Infrastructure Bank	14.4	<1.0
Total Program	\$30,169.4	100%
Miscellaneous Highway Trust Funds	347.0	
Appalachian Highway System	323.1	
Miscellaneous Appropriations	191.1	
Total	\$31,030.6	
¹ - Includes Allocated Programs to Departments of Interior and Transportation		

Federal funds are allocated to the FHWA and DOT strategic goals based on spending for program accounts and activities. As illustrated in Table B, approximately 81.5 percent of funds were used to improve the condition and performance of the transportation system, while 12.0 percent of the funds were used to improve traffic safety and approximately 6.4 percent of the funds were spent to reduce on-road emissions and improve ecosystems.

TABLE B. Federal Highway Total Program Costs by Strategic Goal, FY 2003

(Source: FHWA Office of Budget and Finance.)

Strategic Goal	Program Cost (\$ Million)	% Total Program
Safety	3,613.2	12.0
Mobility and Productivity	24,601.2	81.5
Environment	1,945.5	6.4
National Security	1.3	<0.1
Organizational Excellence	8.2	<0.1
Total	\$30,169.4	100.0%

Performance Measures

SAFETY

Measure: Rate of highway-related fatalities per 100 million VMT.

Data Source: The NHTSA Fatality Analysis Reporting System (FARS) and the FHWA Highway Performance Monitoring System (HPMS).

Scope of Data: The number of fatalities is obtained from FARS data, a census of fatal traffic crashes within the 50 States, DC., and Puerto Rico. To be included in FARS, a crash must result in the death of an occupant of a vehicle or a nonmotorist within 30 days of the crash. The FARS data is a 100 percent count of fatal crashes collected from police crash reports, and other State data. The FARS data cover all roadways open to the public, using the NHS classification of roads. Pedestrian and bicycle fatalities that occur on public highways but do not involve a motor vehicle are not recorded in FARS; however, this is a small number of fatalities. The VMT data are obtained from the FHWA HPMS, which is based on state-reported estimates of travel using various levels of sampling dependent on road type.

Measurement Methodology: The FARS data are collected in each state, translated into a standard format, and transmitted to the NHTSA. Data are collected from police crash reports, state vehicle registration files, driver licensing files, highway agency records, vital statistics, death certificates, coroner/medical examiner reports, hospital medical reports, and emergency medical service reports. The HPMS is an integrated database that relies on the state highway agencies to annually report area wide data, universe data, standard sample data, donut area sample data, and linear reference system data for geographic information systems.

Comments: The FARS data elements are modified slightly from year to year to respond to emphasis areas, vehicle fleet changes, and other needs for improvement. The FARS is a census of all highway traffic fatalities. As such it does not include information on crashes that produce only nonfatal injuries or that result in only property damage.

Measure: Highway-related injuries per 100 million VMT.

Data Source: The DOT information systems: the NHTSA General Estimates System (GES) for number of nonfatal injuries and FHWA HPMS for VMT both using states' data.

Scope of Data: Injured persons data are derived from GES, a nationally representative probability sample that makes national estimates of total nonfatal injury crashes, injured persons, and property damage only crashes. The GES data cover all roadways open to the public, using the NHS classification of roads. The VMT data is derived by FHWA from state-reported estimates of travel based on various levels of sampling dependent on road type.

Measurement Methodology: The GES collects general information about the location of crashes in its sample. The HPMS is an integrated database that relies on the State highway agencies to report area wide data, universe data, standard sample data, "donut" area sample data, and linear reference system data for geographical information systems. The area-wide data consist of five statewide summaries. The summaries include data on travel and fatal and nonfatal crashes. This summary will be dropped from future HPMS.

Comments: The GES sample plan only allows estimates of national totals, not detailed state-by-state breakdowns. Only general information is collected on the type of crash and highway system involved. The GES sample is designed to analyze vehicle and occupant injury information, not the roadway elements. Although various sources suggest that about half the motor vehicle crashes in the country are not reported to police, the majority of these unreported crashes involve only minor property damage and no significant personal injury. By restricting attention to police reported crashes, the GES concentrates on those crashes of greatest concern to the highway safety community and the general public.

MOBILITY AND PRODUCTIVITY

Measure: Percent of vehicle miles/kilometers traveled on the NHS that meet pavement performance standards for acceptable ride quality IRI less than or equal to 170 in/mi.)

Data Source: HPMS.

Scope of Data: Data include VMT on the HPMS reported NHS sections and pavement ride quality data reported using the IRI. The IRI is a quantitative measure of the accumulated response of a quarter-car vehicle suspension experienced while traveling over a pavement.

Measurement Methodology: Data are collected by the State Highway Agencies and reported to FHWA for the HPMS. They are obtained from measurement devices that meet industry set standards. Recommended measurement procedures are included in the HPMS Field Manual. Data up to 2002 are final estimates. The 2003 measure is not available, as states report highway performance data to FHWA some months after the end of the calendar year. The measure given is a projection from 1999–2002 trend data using least squares regression.

Data Issues: The IRI data for the approved NHS exist from 1995 onward. Past data (1993 and 1994) were collected on the proposed NHS, rather than the approved system. The NHS IRI data are not available prior to 1993. The HPMS requires States to report IRI data every 2 years. In the HPMS Field Manual, FHWA refers to AASHTO Provisional Standards for measurement of pavement profile as the preferred method for equipment and data collection.

Measure: Percent of NHS and Non-NHS Bridge deck area classified as deficient for all average daily traffic (structurally deficient or functionally obsolete).

Data Source: NBI information.

Scope of Data: The National Bridge Inventory System (NBIS) requires the inspection of all bridges located on public roads and the submission of the collected bridge inventory and inspection data to the FHWA for inclusion in the NBI. The FHWA maintains the NBI, which contains data on the Nation's 582,750 highway bridges. The information in the NBI contains 95 data items for each of the bridges as required by the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. From the data provided, the FHWA monitors the condition of the Nation's bridges, which includes identifying those bridges that are either functionally obsolete or structurally deficient.

Measurement Methodology: The bridge information is collected by the state DOTs and other bridge owners and is provided to the FHWA at least annually (Note: Some states provide data quarterly). As part of the FHWA's NBI, NBIS, and Highway Bridge Replacement and Rehabilitation Program monitoring and oversight responsibilities, the accuracy and reliability of the submitted NBI information is constantly evaluated through data checks and field reviews by both Headquarters and field office personnel.

Data Issues: The NBI is the world's most comprehensive database of bridge information.

Measure: Percent user satisfaction with the operation of the system.

Data Source: FHWA 2000 Traveler Perception Survey

Scope of Data: A national sample of passengers.

Measurement Methodology: In 2000, FHWA surveyed passengers to ascertain satisfaction with the highway transportation system. The next survey will be administered in 2004.

Data Issues: None.

Measure: Percent of congested travel, Percent of additional travel time (Travel Time Index), and Number of hours of driver delay

Data Source: Data collected and provided by the state DOT from existing state or local government databases, including those of MPOs.

The FHWA HPMS serves as the repository of the data. The Texas Transportation Institute utilizes HPMS data to derive the above measures.

Scope of Data: Data obtained from approximately 400 urban areas. The data reflects the travel conditions of the freeway and principal arterial street networks. An urban area is a developed area with a density of greater than 1,000 persons per square mile. Free-flow speeds are defined as less than 10 miles per hour (mph) below 60 mph on freeways and 35 mph on principal arterial streets.

Measurement Methodology: Methodology used to calculate performance measures has been developed by the Texas Transportation Institute and used in their annual Mobility Report. A detailed description of the methodology is available at http://mobility.tamu.edu. The percent of congested travel measure reflects recurring delay only, i.e., does not include crashes and incidents. Conversely, the percent of additional travel time and hours of driver delay measures include congested traffic volumes, crashes, and vehicle breakdowns. Statereported HPMS data are reviewed by FHWA for completeness, consistency, and adherence to reporting guidelines. When necessary, and with close state cooperation, data may be adjusted to improve completeness, consistency, and uniformity.

Data Issues: The 2001 and prior measures are final. The 2002 measure is preliminary, as partial 2002 HPMS data was used to construct the estimates. The 2003 data is not available. The HPMS data is compiled from the states and verified approximately 10 months from the base year, e.g., 2003 actual numbers will not be available from HPMS until October 2004. The 2004 measure is a projection using a quadratic regression and 1996–2002 trend data. To accurately and reliably manage the transportation system, real-time (minute-by-minute) measurement of system speeds is needed.

Measure: Number of ITS integrated deployments in metropolitan areas.

Data Source: The data are obtained for designated metropolitan areas identified in the Metropolitan ITS Deployment Tracking database.

Scope of Data: The level of integrated deployment is based on two factors: (1) How much ITS infrastructure is in place at each metropolitan area; and, (2) How much integration is going on at each area. Metropolitan areas are rated as low, medium, or high separately for deployment and integration and then assigned an overall combined rating. An overall score of medium or high meets the goal for a metropolitan area. This indicator is meant to provide a basic, easy to understand, gauge of ITS integrated deployment. Before the final results are reported, the ITS Joint Program Office reviews the data and methodology, which is also distributed to FHWA staff and survey respondents to confirm their accuracy and completeness. Independent experts review procedures for survey construction and data collection prior to each survey.

A steering committee of Government officials review and approve changes to methodology or indicators prior to their implementation.

Measurement Methodology: The level of ITS component deployment in a metropolitan area is expressed as a ratio of actual deployment divided by the total possible, i.e., the number of freeway miles under electronic surveillance divided by the total freeway mileage.

Components are considered deployed once the level of deployment attains a specified threshold level based on key indicators. Integration is defined as the sharing of data between agencies associated with the different jurisdictions responsible for ITS infrastructure. Jurisdictions include state DOTs responsible for management of freeways and incident management programs, city government agencies that manage most of the traffic signal systems, and public transit authorities that manage most bus and rail services. The level of integration is determined by the extent that these three organizations employ technology to share and use transportation data to increase system capacity.

Data Issues: This indicator does not reflect the full breadth of deployment or integration activities. For example, while it establishes the existence of basic integration of essential components, it does not confirm that all possible or desirable integration links exist in a metropolitan area. Similarly, the attainment of a deployment threshold only confirms a substantial commitment to the use of ITS technology but does not indicate that all needed deployment is complete.

HUMAN AND NATURAL ENVIRONMENT

Measure: Ratio of wetland replacement resulting from Federalaid Highway projects.

Data Source: State DOT wetland mitigation databases.

Scope of Data: The summary data reflects the total acres of wetlands impacted versus total acres of mitigation that are provided. Annual data is available beginning with FY 1996.

Measurement Methodology: Data are compiled by the DOTs using local sources. A FHWA-sponsored national wetlands management database is under development.

Data Issues: The uniformity of the data is not guaranteed, since it is subject to interpretation by the state DOT. In particular, there is no uniform definition of what should be reported as acres mitigated. The FHWA has provided guidance to the States as to which mitigation activities are to be reported.

Measure: Number of exemplary ecosystem initiatives.

ecosystem and habitat conservation initiatives for consideration by FHWA Headquarters offices.

Scope of Data: The objective is to increase ecosystem and habitat conservation by implementing a minimum of 30 exemplary ecosystem initiatives in at least 20 states or Federal Lands Highway Divisions by September 30, 2007. So far, eight initiatives have been selected across the country. At least 22 more efforts are to be identified across at least 12 additional states or Federal Lands Highway Divisions over the next 4 years.

Measurement Methodology: The FHWA has prepared and distributed guidance outlining the criteria for selection of exemplary ecosystem initiatives. The Headquarters selection team will use these criteria to judge the merits of initiatives submitted for consideration. Initiatives may be designated as exemplary ecosystem initiatives if they meet a majority of the selection criteria.

Data Issues: The data may not represent all ecosystem and habitat conservation initiatives underway, since submittals will be made at the discretion of state DOTs and FHWA field offices.

Measure: The number of States with integrated approaches to multi-modal planning, the environmental process, and project development at a systems level; and/or CSS at a project level.

Data Source: FHWA Division Offices

Scope of Data: Data is collected as states meet the criteria for CSS/CSD. Work continues with the Division Administrator Advisory Council to refine the criteria for integrated approaches.

Measurement Methodology: Each FHWA division office is requested to report the data from the states meeting the criteria.

Data Issues: Some states feel that they have been practicing a form of CSS/CSD in the past and therefore, should be considered as meeting the criteria for CSS/CSD and or integrated approaches.

Measure: The number of areas in a transportation conformity lapse.

Data Source: FHWA Division Offices.

Scope of Data: The FHWA and the FTA jointly make conformity determinations within air quality nonattainment and maintenance areas to ensure that Federal actions conform to the purpose of SIPs. The transportation conformity process is intended to ensure that transportation plans, programs, and projects will not result in new violations of the NAAQS, increase the frequency or severity of existing NAAQS violations, or delay the attainment of the NAAQS in designated nonattainment (or maintenance) areas.

Measurement Methodology: The data is collected on a monthly basis. The number of lapses monthly is calculated as a 12-month moving average.

Data Issues: A conformity lapse exists if conformity cannot be determined within certain time frames after amending the SIP, or if 3 years has passed since the last conformity determination.

Measure: Percent of nonattainment and maintenance areas meeting their mobile source emissions budget goals.

Data Source: FHWA Division Offices.

Scope of Data: Data are collected annually on July 1.

Measurement Methodology: Each FHWA office is requested to report the number of nonattainment and maintenance areas that meet their mobile source emissions budget by pollutant (i.e., ozone, particulate matter, and carbon monoxide).

Data Issues: The makeup and severity of nonattainment areas will vary year-to-year. The data collected reflect only a status of the nonattainment and maintenance area. When an area does not meet the air quality standard for one of the criteria pollutants, it may be subject to the formal rulemaking process that designates it as a nonattainment area.

Measure: On-road mobile source emissions in short tons.

Data Source: National Air Quality and Emissions Trends Report, EPA. (EPA uses data from FHWA's HPMS).

Scope of Data: Total mobile source emissions are the sum of onroad mobile source emissions of carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter less than 10 microns in diameter (PM-10).

Measurement Methodology: The annual emissions level is the estimated total annual tonnage of on-road mobile source emissions of carbon monoxide, hydrocarbons, nitrogen oxides, and PM-10 as reported in the latest EPA Trends Report.

Data Issues: The Trends Report is usually available around October of each year. The EPA's use of a mathematical model poses issues of model validation. The annual variation in the model's estimates, as measured by the regression standard error, is 2.57. The HPMS data used as input to the model are subject to sampling and non-sampling errors.

NATIONAL HOMELAND SECURITY

(Measures are currently under review.)

ORGANIZATIONAL EXCELLENCE

Measure: Percentage of major federally funded infrastructure projects that meet cost estimates and scheduled milestones in project agreements or contracts, or miss them by less than 10 percent.

Data Source: The FHWA Headquarters and Division Offices.

Scope of Data: The FHWA projects with a total cost of \$1 billion or more.

Measurement Methodology: The FTA and the FHWA: Measures are calculated monthly by a Headquarters Engineer, checked by the Team Leader and re-checked by the Office Director. The FTA and the FHWA use independent reviews and third party assessments such as the Corps of Engineers and other oversight contractors to validate the accuracy of project budgets and schedules before grantees' are awarded Full Funding Grant Agreements.

Data Issues: This is a new measure. Data collection procedures are still being refined.

Measure: Percent of obligations expended on open (active) projects.

Data Source: Fiscal Management Information System (FMIS).

Scope of Data: The percentage is based on the total amount obligated on all Federal-aid and Federal Lands Highway projects (regardless of year authorized) that have not been put under final voucher (FMIS report M79) as of September 30 each year.

Measurement Methodology: The amount described above is compared to the unpaid obligations (FMIS report M80) as of the same day. This provides the amount expended on all open (active) projects.

Data Issues: This measure does not reflect activity for a single fiscal year.

Measure: The median number of months from Notice of Intent (NOI) to approval of the Record of Decision for EISs.

Data Source: Data is collected at Division level and compiled at the national level by our Environmental Office.

Scope of Data: <u>EIS</u>: A written assessment of the anticipated significant effects, both positive and negative, which a prospective Federal agency decision may have upon the quality of the human and natural environment. <u>NOI</u>: An official

announcement in the Federal Register advising interested parties that an EIS will be prepared and circulated for a given agency action. ROD: A final Federal decisionmaking document, relative to EIS, that presents the basis for selecting and approving a specific course of action, including identification of the alternatives considered, measures to minimize harm and an itemized list of commitments and mitigation measures.

Measurement Methodology: Information on development time from the Notice of Intent to: a) Draft EIS; b) Final EIS; c) Record of Decision; d) EIS with 4; and e) EIS without 4(f) will be tracked.

Data Issues: This is a new measure. Data collection procedures are still being refined.

Measure: Customer and partner satisfaction.

Data Source: The Agency partner satisfaction feedback is gathered through an on-line survey administered to FHWA partners.

Scope of Data: The overall satisfaction score will be tracked over time to monitor changes in partner satisfaction on a 5-point scale.

Measurement Methodology: The survey is a centrally administered survey for administration in each of the 50 states, the District of Columbia, and Puerto Rico, with options for FHWA Division office modifications. A "moving average," will be applied by surveying approximately 13 states every 6 months completing the cycle in 2 years.

Data Issues: Since this is a survey of perceptions, ratings are subjective.

Measure: Employee job satisfaction (percent positive responses).

Data Source: Agency employee feedback using the all-employee survey instrument.

Scope of Data: Job satisfaction was determined to be the overarching measure for this category. Percent positive responses means that respondents either "strongly agree" or "somewhat agree" with the statement, I am satisfied with my job.

Measurement Methodology: The all-employee Survey is a biennial survey. The current strategy is to administer the full survey biennially (in odd numbered years) and a shorter (10-12 question) survey in even numbered years.

Data Issues: None.

Data Source: Departmental Accounting and Financial Information System.

Scope of Data: Percent of Payroll (salary plus benefits)—Percentages represent total investment in training including tuition, contract cost, participants travel and per diem and instructor travel for all training and career development courses and programs for FHWA employees.

Measurement Methodology: Amount of dollars spent on training and development divided by salary and benefits.

Data Issues: None.

Measure: Percent of full employment (FTE).

Data Source: DOT Consolidated Personnel Management Information System.

Scope of Data: This metric is a key indicator of success in retaining technical expertise. It can also be used as an indicator of salary expenditures versus budget limitations, and serve as a warning to reduce hiring or assigned positions distributed within the Agency when the 100 percent level is reached or exceeded.

Measurement Methodology: The full employment level represents the number of employees that the Limitation on Administrative Expenses (LAE) set by Congress will support. The percentage of full employment level is the number of employees on-board at the end of each month divided by the full employment level. Federal Lands Highways "000" positions are excluded from the LAE employment ceiling.

Data Issues: Hiring rates and separation rates vary throughout the year. Employment levels tend to peak during the summer months and decline a bit during the fall and winter months. More staff retire in late December, early January and September than in other months. More employees are hired in June and July, including recent college graduates in the Professional Development Program and students in the Summer Employment Program.

Glossary

AASHTO American Association of State Highway and Transportation Officials

ACTT Accelerated Construction Technology Transfer

BSPC Border States Partnership Council

CSS Context Sensitive Solutions
CSD Context Sensitive Design
CAD Computer-Aided Dispatch
CMP Corporate Master Plan

DOTs Departments of Transportation
EA Environmental Assessment
EIS Environmental Impact Statement

EPA Environmental Protection Agency FAF Freight Analysis Framework

FARS Fatality Analysis Reporting System FHWA Federal Highway Administration FTA Federal Transit Administration

FTE Full-time Equivalent

FMIS Fiscal Management Information System

FY Fiscal Year

GES General Estimate System

HPMS Highway Performance Monitoring System

HTF Highway Trust Fund

ITS Intelligent Transportation System IRI International Roughness Index

LAE Limitation on Administrative Expenses
MPO Metropolitan Planning Organization
NAAQS National Ambient Air Quality Standards

NBI National Bridge Inventory

NBIS National Bridge Inventory System

NEPA National Environmental Protection Agency

NHS National Highway System

NHTSA National Highway Traffic Safety Administration

NOI Notice of Intent

NPHQ National Partnership for Highway Quality

NPRM Notice of Proposed Rulemaking

PM-10 Particulate matter ROD Record of Decision

SAFETEA Safe, Accountable, Flexible, and Efficient Transportation Equity Act

SIP State Implementation Plan

STIP Statewide Transportation Improvement Program

TBWG Transportation Border Working Group

TEA-21 Transportation Equity Act for the 21st Century

TIFIA Transportation Infrastructure Finance and Innovation Act

TSA Transportation Security Administration

VMT Vehicle Miles of Travel

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