

# Federal Highway Administration

## Performance Plan

### For the

## President's Fiscal Year 2000

## Budget

Revised September 20, 1999

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### Introduction

The Federal Highway Administration Fiscal Year (FY) 2000 Performance Plan is a companion piece to the FHWA FY 1998 Strategic Plan and to the FY 2000 Budget Request. The Performance Plan defines the performance goals and the indicators we will use to measure our progress toward achieving our strategic goals. Our strategic goals are highlighted in this plan and are explained in more detail in the FHWA Strategic Plan.

By linking our goals to the budget, the Performance Plan describes one fiscal year's effort, showing how this effort fits into the long-range plan for the Agency and how it supports the goals of the U. S. Department of Transportation (DOT). At the end of the fiscal year, our actual performance will be evaluated against the goals in this plan, using our performance measures and planned accomplishments.

**Background: *The FHWA 1998 National Strategic Plan***

The FHWA 1998 National Strategic Plan provides a "blueprint" for the Agency to establish the priorities and direction for its contributions to the Nation's highways and intermodal transportation system. It sets forth the overall direction, vision, and mission of the FHWA, and is the Agency's approach to align efforts and resources, and to measure progress toward specific objectives. The FHWA role in accomplishing these goals is one element in the total DOT program to advance the quality and performance of our Nation's transportation system. Our partners, customers, and stakeholders in the highway and transportation community each play a vital role in the success of our program.

**FHWA Vision: *Create the best transportation system in the world.***

The FHWA, in partnership with the State, local and private transportation communities, is preparing for the future. Our vision is to create the safest, most efficient and effective highway intermodal transportation system in the world for the American people--a transportation system where everyone has access within and beyond their community and to the world; a transportation system where crashes, delays, and congestion are significantly reduced; a transportation system where freight moves easily and at the lowest costs across towns, States, and international borders; a system where roads protect ecosystems and where travel on our roadways does not degrade the quality of the air; a system where pedestrians and bicyclists are accommodated; and a system where essential transportation services are restored immediately after disasters and emergencies.

**FHWA Mission: *We continually improve the quality of our Nation's highway system and its intermodal connections.***

We carry out this mission by providing leadership, expertise, resources and information in cooperation with our partners to enhance the country's economic vitality, quality of life, and environment.

**FHWA Strategic Goals:**

**Mobility** *Continually improve the public's access to activities, goods, and services through preservation, improvement, and expansion of the highway transportation system and enhancement of its operations, efficiency, and intermodal connections.*

**Productivity** *Continuously improve the economic efficiency of the Nation's transportation system to enhance America's position in the global economy.*

**Human and Natural Environment** *Protect and enhance the natural environment and communities affected by highway transportation.*

**National Security** *Improve the Nation's national defense mobility.*

The FHWA recognizes that it cannot achieve these goals and objectives without the active participation and support of its employees and its partners throughout government, academia, and in the private sector. Since the beginning of the highway program, planning, constructing, and maintaining the Nation's highway system has been a cooperative effort. These partnerships need to continue, expand, and be strengthened to meet the transportation demands of the 21st century. The FHWA recognizes that data to measure program performance may involve data collection by the States, local governments, and other organizations. The FHWA will continue its work with our partners to streamline all data requirements and make them more effective in meeting our needs.

The FHWA's Strategic Goals and Objectives were developed based on assumptions about both the internal and external environment. If there are significant differences from the forecasted trends in personal or commercial transport, these may affect our ability to meet the Strategic Goals and Objectives we have set.

**STRATEGIC GOAL:**

**Safety**

***Continually improve highway safety.***

Safety on the highways is our top priority—more than 40,000 Americans die, and 3.5 million are injured in motor vehicle crashes on our highways each year. Crashes involving pedestrians and bicyclists result in 5,000 fatalities annually. As more people travel farther on the highways each year, and as the demographics of our driving population change, significant improvements in highway safety are essential to prevent the number of fatalities and injuries from also increasing. Ensuring that it is safe to travel on the highways is a guiding principle throughout all of our programs and activities.

**We Aim to Achieve This Strategic Objective:**

- Reduce the number of highway-related fatalities and injuries

The following performance goals will be used to gauge our progress in advancing our and the Department's outcome goals for improving highway safety:

**Highway Fatality and Injury Rates**

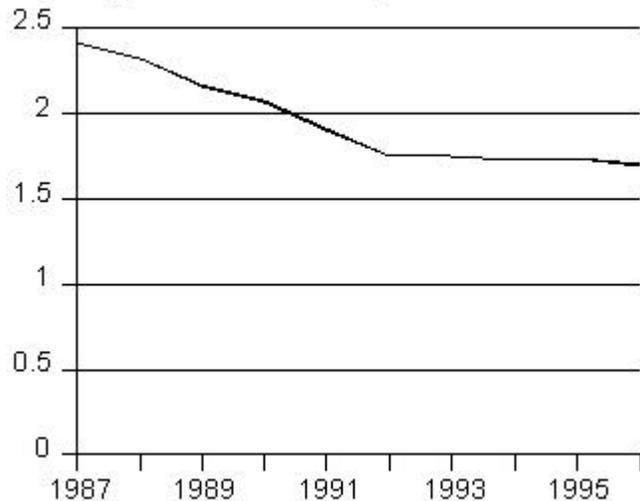
**FHWA Performance Goals:**

- 1.) Reduce the rate of highway-related fatalities
- 2.) Reduce the rate of highway-related injuries

**FHWA FY 2000 Performance Measures and Targets:**

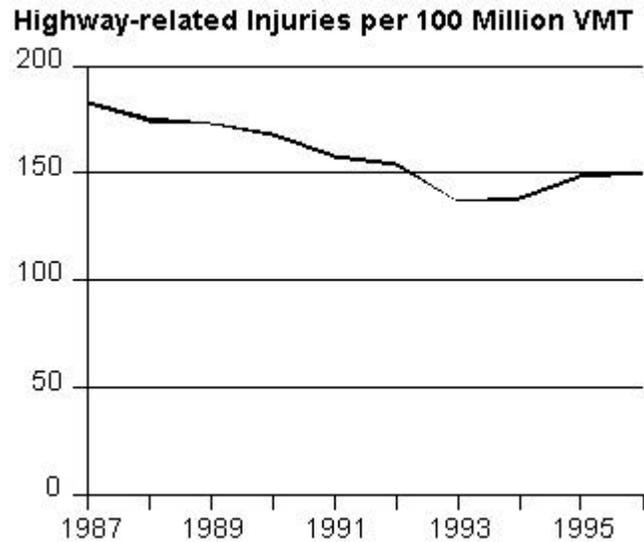
- 1.) Reduce the rate of highway-related fatalities per 100 million vehicle miles traveled (VMT) from 1.7 in 1996 to 1.5 in 2000.
- 2.) Reduce the rate of highway-related injuries from 141 per 100 million VMT in 1996 to 124 per 100 million VMT in 2000.

**Highway-related Fatalities per 100 Million VMT**



**Why We Act:** As a result of motor vehicle crashes, an estimated 41,967 Americans died in 1997, including 6,117 pedestrian and bicyclists, and 3.4 million were injured, taking a heavy personal toll on American families and costing more than \$150 billion in medical costs. Highway crashes account for 94 percent of all transportation-related fatalities and 99 percent of transportation injuries. Crashes are the leading cause of death for ages 6 through 27.

As more people travel more on the highways each year, without significant improvements in highway safety, the number of fatalities and injuries could also increase. While many improvements have already been made, the safety community needs to be more focused on the problems it attempts to address and the types of countermeasures pursued. There are important consequences of the changing demographics in our driving population—the 65 and older age group, which numbered 33.5 million in the U.S. in 1995, will grow to more than 36 million by 2005 and will exceed 50 million by 2020. This steadily increasing proportion of drivers will experience declining vision; slowed decision making and reaction times; exaggerated difficulty in dividing attention between rapidly shifting resources of potential conflicts and other traffic information; and reductions in strength, flexibility and overall fitness will pose many challenges as system safety is ensured while increasing operation efficiency. Ensuring that it is safe to travel on the highways is a guiding principle throughout all of our programs and activities.



Approximately 30 percent of the land in the United States belongs to the Federal government. The Federal Lands Highway Program (FLHP) provides funding to improve safety on 225,000 miles of roads.

### Special Challenges:

Vehicle travel is expected to grow at approximately 2.2 percent per year. In addition, the highest risk population groups—older drivers and drivers aged 15 to 24—will grow at faster rates than the overall population.

States can use proven safety management processes to identify problems and solutions. Improvements in the States' abilities in these areas will result in more effective approaches to reducing the number and severity of crashes. While national focuses can succeed, our reliance is on the States and locals to be able to identify priority areas and invest public funds to correct the infrastructure as well as target personal behavior (driver, pedestrians and bicyclists) and vehicle safety.

A major opportunity for reduced fatalities and injuries is the individual's awareness of unsafe practices. These include aggressive driving (i.e., red light running, excessive speeding, speeding in work zones and tailgating); failure to use restraint systems properly (adult and child); and driving under the influence of alcohol and drugs. Overcoming a traditional highway development and operations resistance to address human behavior is a challenge.

Historically, Federal land management agencies have placed less emphasis on highway safety because many of the roads are low speed and low volume. Consequently, they have no specific programs or systems which focus on safety issues. The Federal Lands Highway Office (FLHO) has begun discussions with the land agencies to examine the feasibility and practicality of creating highway safety programs. Interagency agreements on safety are being drafted to identify the roles and responsibilities for this endeavor. In addition, TEA-21 outlines requirements to proceed using a

negotiated rule process, which is estimated to take two years to complete.

### **Strategies:**

OMCHS Safety Action Plan: The OMCHS has developed a Safety Action Plan to focus the agency's resources and capabilities into areas of opportunity that have a high safety payoff in reducing crashes, injuries and fatalities working toward achieving the Safety Goals. The Safety Action plan contains OMCHS's principle activities and initiatives through 2003. The Action plan directs attention to those areas of greatest concern—increased enforcement of high-risk carriers, run-off-the-road and high speed crashes, pedestrian safety, substandard vehicles, border crossing safety, and highway hazards. The plan does not identify all planned actions, only those deemed important to reducing crashes, injuries, and fatalities. OMCHS expects that significant decreases will become evident in later years as programs near their completion and the results from data can be evaluated.

Deploying Lifesaving Technologies on the Highways: The FHWA will identify and promote deployment of safety technology with particular emphasis on technologies that address high priority areas, including run-off-road and pedestrian and bicyclist incidents. Advancement of Intelligent Transportation System technologies including intelligent cruise control, viewer enhancers, and on-board sensors, as discussed under the mobility goal, will also be a key part of the safety initiatives. The FHWA's longer term safety strategy is a technology-based systematic approach to enhance the safety of the roadway, vehicles, and users.

**Other Federal Programs with Common Outcomes:** All Federal agencies are involved in the President's initiative to increase seat belt usage. The FHWA also works with the following within the Federal government:

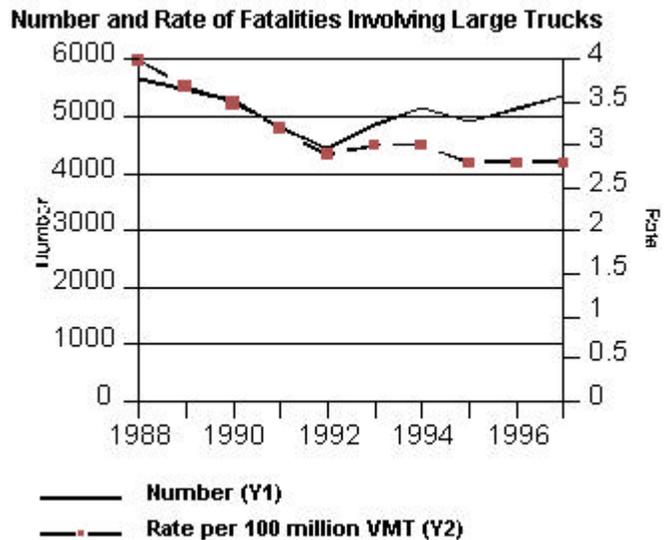
- National Academy of Science: on a speed limit criteria program, roadway infrastructure safety issues, and on nationwide study(ies) of priority safety issues and development of uniform countermeasures;
- Naval Research Lab: on development of a mobile sign retroreflector vehicle for nationwide use;
- Department of Labor: to improve work zone traffic control for improved safety for workers in construction and work zones;
- National Transportation Safety Board: to identify infrastructure enhancements to improve highway safety by reducing both the number and severity of highway crashes;
- Department of Interior's Bureau of Indian Affairs and Indian Health Service: on various highway safety improvement and traffic safety outreach initiatives on Indian lands
- Centers for Disease Control and Prevention: on criteria for setting and enforcement of speed limits and reduction of unintentional injuries; and
- Department of Defense: improving safety on military bases and installations.
- The FLHO works with the Department of Interior's Bureau of Indian Affairs and Indian Health Service on various traffic safety outreach initiatives. The FLHO continues to identify highway safety and safety management system training opportunities, especially the use of seat belts and related safety matters, to expand safety knowledge among the various Federal land management agencies' staff.

### **Large Truck Fatalities, Injuries, and Crashes**

**FHWA Performance Goal:** Reduce the number of fatalities involving large trucks by 50 percent over 10 years beginning in FY 1999. Reduce the number and rate of (1) injuries, and (2) crashes involving large trucks.

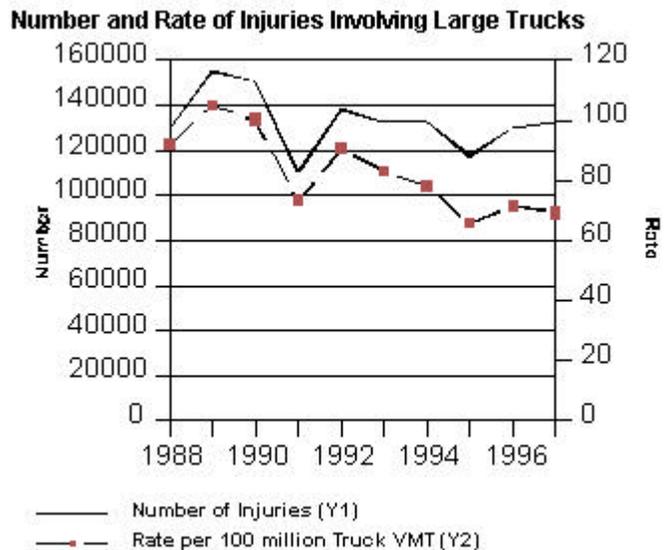
### **FHWA FY 2000 Performance Measures and Targets:**

- 1.) Reduce the number of fatalities involving large trucks by 50 percent over 10 years beginning in FY 1999.
- 2.) Reduce the number of injuries in motor vehicle crashes involving large trucks from the 1996 baseline of 130,000 to 125,000 in FY 2000; and the rate of injuries per 100 million truck VMT from the 1996 baseline of 71.2 to 64.4
- 3.) Reduce the number of injury crashes involving large trucks from the 1996 baseline of 89,000 to 85,000 in FY 2000; and the rate of crashes per 100 million truck VMT from the 1996 baseline of 48.6 to 44.



**Why We Act:** Motor carrier safety remains a critical component of the overall highway safety program—more than 5,000 Americans died, and 133,000 were injured in large truck crashes in 1997. The number of fatalities in large truck crashes per 100 million miles of truck vehicle-miles-traveled (truck VMT) has declined from 4.3 in 1986 to 2.8 in 1997—a drop of 35%—but since 1992, the rate has remained nearly constant.

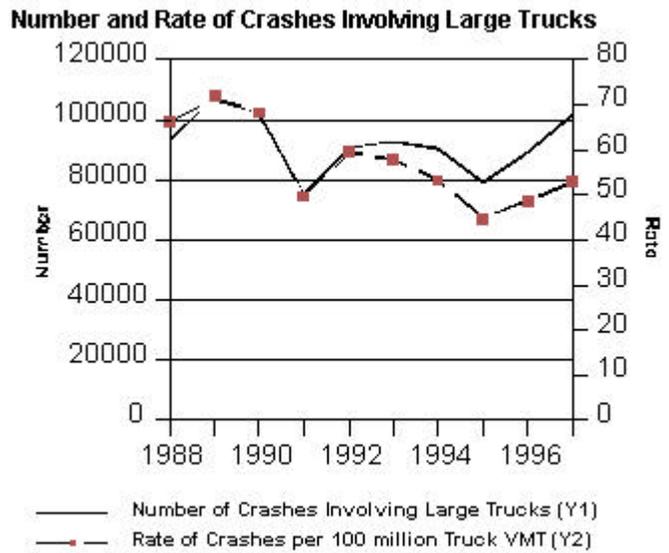
**Special Challenges:** The motor carrier population continues to expand, from 190,000 interstate carriers of record in 1989 to 425,000 in 1998, placing new demands on Federal and State safety resources. The motor carrier industry has now become too large and diverse to use enforcement mechanisms alone to ensure compliance. New strategies are needed. Information systems and reliable analysis of safety data will be needed to identify and target the high-risk carriers and drivers in the future.



**Strategies:** The FHWA will target enforcement on motor carriers posing the greatest risk—those with a history of poor performance; harness the speed, accuracy, and efficiency of new technologies to improve motor carrier safety; and build new public partnerships to focus greater manpower and resources on truck and bus safety.

**Other Federal Programs with Common**

**Outcomes:** Study of Effects of Work and Rest Schedules On Driver Performance: The hours-of-service (HOS) regulations include limits on driving based upon 7- or 8-day duty cycles. Many motor carriers and drivers have expressed a desire for the duty cycle to be "reset" after a certain amount of off-duty time. However, a literature review found no sources of data on rest and recovery cycles, nor on partial sleep deprivation and prediction of subsequent performance. This study will provide important information concerning potential use of personal monitors to prevent fatigue and loss-of-alertness through application of a performance-based assessment. Drivers and motor carriers could gain benefits unavailable under the current prescriptive regulatory system. Drivers would be able to better gauge their present and projected alertness and performance levels, and be able to alter their activity (increase main sleep or take naps) to improve alertness and projected performance. Motor carrier personnel would also be better informed about the drivers' alertness and performance status to optimize both productivity and safety. This project has provided unprecedented opportunities for cross-modal (FHWA, FAA, FRA) and cross-agency (DOT, Department of Defense (DOD), the National Institutes of Health (NIH)) project coordination and resource sharing.



**Activities and Initiatives in FY 2000:**

- Implement Office of Motor Carrier and Highway Safety multi-year Safety Action Plan.
- Start four "Generation Zero" operational tests.
- Initiate agreements with consortium of motor vehicle manufacturers to study enabling research.
- Conduct a demonstration of IVI capabilities.-570
- Provide technical expertise to partners of FLHP program to ensure emphasis on safety.
- Develop plan to influence partners of FLHP program to collect accident data.

**STRATEGIC GOAL:**

**Mobility**

## **Continually improve the public's access to activities, goods and services through preservation, improvement and expansion of the highway transportation system and enhancement of its operations, efficiency, and intermodal connections.**

Mobility, as much as any other factor, defines us as a nation. Almost 90 percent of all personal transportation takes place on highways. Similarly, 72 percent of freight (dollar value) is transported over our highways. The highway transportation system connects people with work, school, community services, markets, and other people. Highways are the backbone of the Nation's intermodal transportation system, connecting air, transit, rail, and port facilities and terminals.

FHWA's objective is to optimize investment in the highway transportation system and its operations and to help maximize the benefit of the system to all Americans. Because the performance goals in Mobility address both infrastructure and operations, this section has been subdivided accordingly.

### **Infrastructure:**

#### **We Aim to Achieve This Strategic Objective:**

- Preserve and enhance the infrastructure of Federal-aid highways with emphasis on the National Highway System (NHS)

The following performance goals will be used to gauge our progress in advancing our and the Department's outcome goals for mobility.

#### **NHS Pavement Condition**

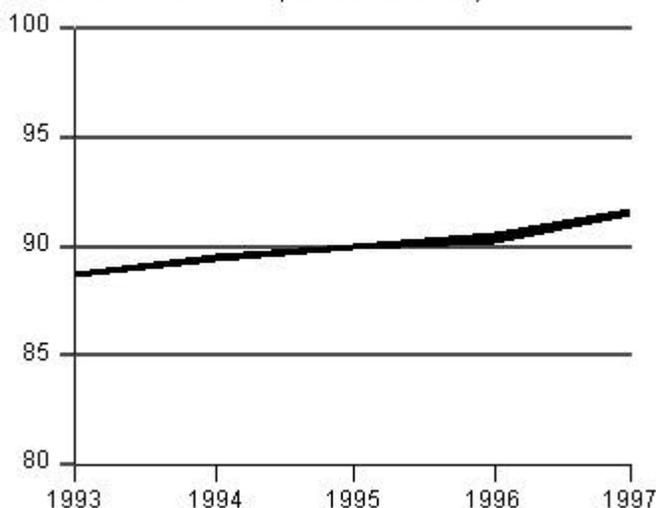
**FHWA Performance Goal:** Increase percentage of kilometers (miles) on the NHS that meet Owner-Agency managed pavement performance for acceptable ride quality, i.e., International Roughness Index less than or equal to 2.68 m/km (170 in/mi).

**FHWA FY 2000 Performance Measure and**

**Target:** Increase the percentage of the National Highway System (NHS) that meets the acceptable ride quality standard from the 1996 baseline of 90.4 percent to 91.8 percent in FY 2000

**Why We Act:** NHS consists of 161,108 miles of rural and urban roads—just 4 percent of total highway miles—but carries 1 trillion or 43 percent of VMT. The system serves major population centers, international border crossings, ports, airports, public transportation facilities, and other intermodal transportation facilities and other major travel destinations. The condition of this system can affect wear-and-tear on vehicles, travel time, congestion, comfort, as well as public safety. Improving the pavement condition also is key to the long-term structural integrity of the highway transportation system.

Percent of NHS with Acceptable Ride Quality

**Special Challenges:**

- Growth in the U.S. economy has contributed to the over 2 percent annual growth in VMT. In addition, industry's demand for heavier and longer trucks and the popularity of sport utility vehicles have resulted in heavier vehicles traveling on the roads. This contributes to increasing pavement deterioration.

**Strategies:** In addition to State and local government, as well as private, investment, Federal investment focuses on road reconstruction and rehabilitation, and promotes advances in road construction, repair, and maintenance technology. FHWA technology deployment initiatives will ensure that advancements in pavement materials and high performance materials are adopted to improve the performance of the NHS.

**Other Federal Programs with Common Outcomes:** None

**Activities and Initiatives in FY 2000:**
**ONGOING ACTIVITIES**

- FHWA partners with State and other authorities to promote infrastructure development and improvement through direct funding, grants, and technical assistance.
- FHWA, States, industry and the research community jointly developed the SUPERPAVE program which focuses on optimizing materials selection to maximize the cost-benefits ratio associated with pavement. Costs include reduced maintenance, better ride quality, and increased pavement life. In cooperation with AASHTO, in 1998 FHWA worked with five States which successfully implemented pavement condition protocols used to help ensure comparable results in States' pavement management systems. In 1999, FHWA will continue to work with AASHTO to incorporate these protocols into AASHTO standards and promote their use by all States.

**NEW ACTIVITIES AND INITIATIVES**

- In addition to non-Federal funds, the FHWA Federal-aid highway program provides funds for projects that improve NHS pavement condition. Most of the Federal funding for these projects comes from the NHS and Interstate Maintenance (IM) programs. Over \$4 billion in IM funds and over \$5 billion in NHS funds are estimated to be obligated in FY 2000, an increase of more than 1 percent in both programs from FY 1999 levels.
- The FHWA will implement SUPERPAVE mix design software in 15 States and achieve nationwide

implementation of SUPERPAVE volumetric mix design procedures. This program is funded at \$3.3 million.

- In TEA-21, \$9.8 million was earmarked for pavements research (other than SUPERPAVE), and \$10 million for the Long Term Pavement Performance Program (LTPP). These programs are funded at the same level as FY 1999. Activities will include improving methods of using concrete pavement for highways, and monitoring and evaluating highway sections to prepare new products.
- The FHWA will implement SUPERPAVE mix design software in 15 States and achieve implementation of SUPERPAVE volumetric mix design procedures in 40 States.

**Bridge Condition**

**FHWA Performance Goal:**

- 1.) Improve the condition of NHS bridges.
- 2.) Improve the condition of all bridges.

**FHWA FY 2000 Performance Measures and Targets:**

- 1.) Reduce the percentage of NHS bridges that are classified as deficient from 25.8 percent in 1996 to 22.5 percent in 2000.
- 2.) Reduce the percentage of all bridges that are classified as deficient from 31.4 percent in 1996 to 28.8 percent in 2000.

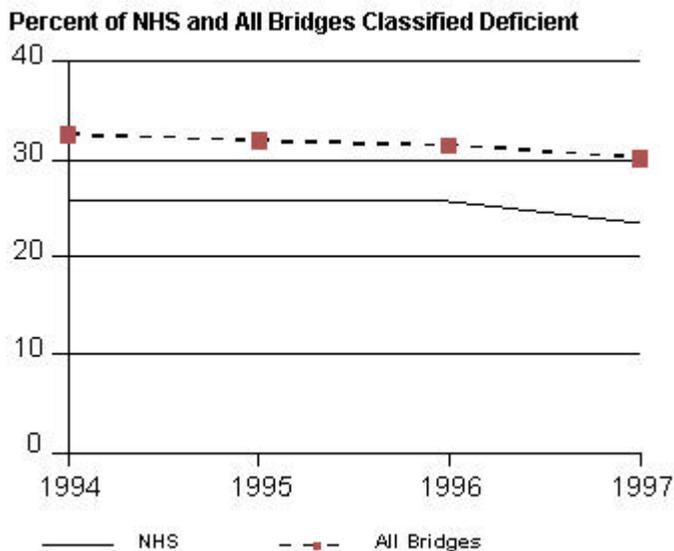
**Why We Act:** Our nation's highway transportation system includes about 581,862 bridges serving population centers, international border crossings, intermodal transportation facilities, and important travel destinations. Almost one-third of these bridges are either structurally deficient or functionally obsolete (in terms of dimensions, load, or other characteristics).

The National Highway System (NHS) includes about 128,508 bridges serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations. Almost 25 percent of these bridges are either structurally deficient or functionally obsolete (in terms of dimensions, load, or other characteristics). Deficient bridges impair the public's access to activities, goods, and services.

**Special Challenges:** Growth in the U.S. economy has contributed to the over 2 percent annual growth in vehicle miles traveled, increasing stress on bridges. In addition, the 4 percent growth rate of combination truck traffic over the 1985 through 1995 period exceeded that for all types of vehicles by 0.7 percent. These trends directly contribute to structural and functional deterioration of our bridges.

**Strategies:** In addition to State and local government, as well as private, investment, Federal investment will help replace or rehabilitate existing bridges. FHWA will focus on research advances in the technology of bridge design, construction, repair, and maintenance. FHWA technology deployment initiatives will ensure that advancements in high performance materials and seismic retrofit techniques are adopted to improve the performance of bridges.

**Other Federal Programs with Common Outcomes:** None



**Activities and Initiatives in FY 2000:****ONGOING ACTIVITIES**

- FHWA partners with State and other authorities to promote infrastructure development and improvement through direct funding, grants, and technical assistance.
- The FHWA and AASHTO jointly initiated the development of software for the PONTIS bridge management system, the VIRTIS bridge load rating system and OPIS bridge design modules for use by State and local practitioners in predicting bridge maintenance needs, determining bridge ratings, and enabling a more cost-effective decision-making on bridge improvements. PONTIS was completed in 1998 and VIRTIS will be completed in 1999. Work on OPIS begins in 1999.

**NEW ACTIVITIES AND INITIATIVES**

- In addition to non-Federal funds, the FHWA Federal-aid highway program provides funds for projects that improve the condition of NHS bridges. Most of the Federal funding for these projects comes from the NHS and bridge programs. Over \$5 billion in NHS funds and more than \$3.5 billion in bridge program funds will be available for obligation in FY 2000, an increase of more than 1 percent in both programs from FY 1999 levels.
- The surface transportation research program helps to provide durable structural materials, leading to extended bridge service life. Other activities include development of inspection condition and nondestructive evaluation technologies for condition assessment in support of bridge management, and technical assistance. A total of \$16.1 million is requested for these activities in FY 2000, which is the same funding level expected in FY 1999.
- FHWA will continue to assist States in implementing the PONTIS and VIRTIS software.
- Innovative bridge research, funded at the FY 1999 level of \$1 million, supports the deployment of innovative materials which are more durable and resistant to traffic loads and corrosive attack, resulting in less maintenance and traffic restriction. The innovative bridge construction program, funded at \$17 million, demonstrates the application of innovative materials on selected bridges. The FY 2000 funding level represents an increase of 13 percent over FY 1999.

**User Satisfaction with the Nation's Highway System**

**FHWA Performance Goal:** Increase user satisfaction with the Nation's highway systems to meet customer needs

**FHWA FY2000 Performance Measure and Target:**

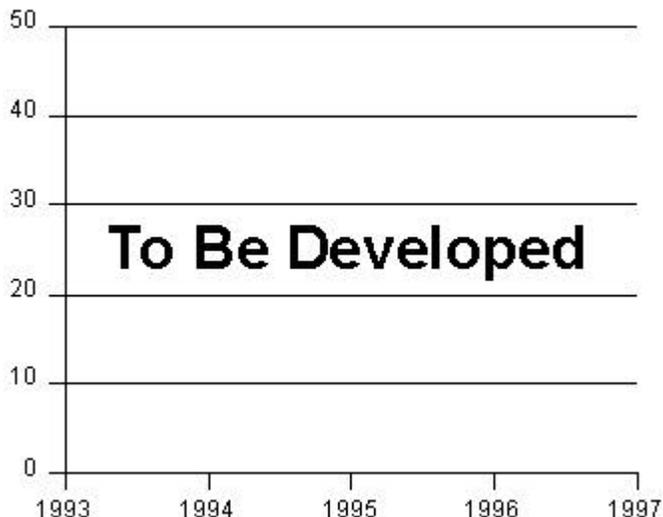
Percent user satisfaction with the Nation's highway systems. (Baseline and target are being developed).

**Why We Act:** FHWA is committed to excellence in service to its customers and partners. It is important to understand highway users' perception of how well highways—as part of the Nation's intermodal transportation system—serve their needs when traveling to work, school, community services, markets, and to visit other people.

FHWA is deciding how best to establish a baseline and targets and collect data for assessing overall user satisfaction with the highway system.

**Special Challenges:** FHWA is considering two potential mechanisms for collecting information periodically on user satisfaction – the National Personal Transportation Survey (NPTS) and the National Quality Initiative (NQI) survey. Through the NPTS, every five years FHWA collects comprehensive information on personal travel behavior and patterns in the U.S.; the most recent data were collected in 1995. In 1996 FHWA conducted the first NQI survey, collecting information on users satisfaction with major highways; another survey is anticipated in 2000.

**Satisfaction with Nation's Highway Systems**



**Strategies:** Increased user satisfaction should be one of the cumulative results of FHWA's programs, services, and activities.

**Other Federal Programs with Common Outcomes:** None

**Activities and Initiatives in FY 2000:**

**ONGOING ACTIVITIES**

- The Federal-aid Program partners with State and other authorities to promote infrastructure development and improvement through direct funding, grants and technical assistance.

**NEW ACTIVITIES AND INITIATIVES**

- By 2000, FHWA will determine the appropriate topics and methods for measuring customer service/customer satisfaction with the highway system.

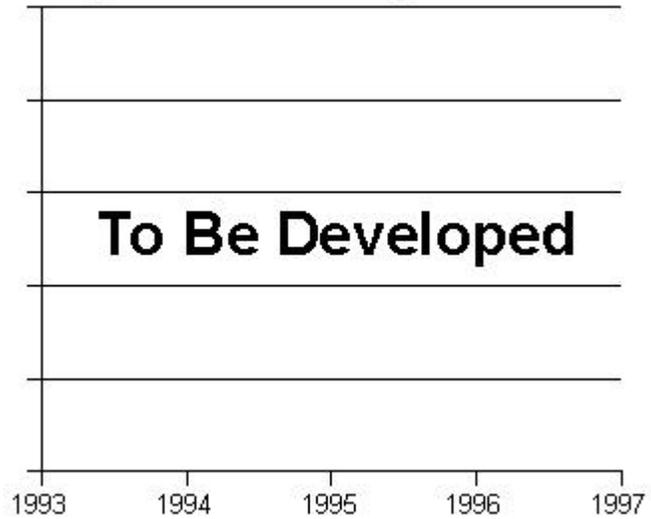
**Mobility of Pedestrians and Bicyclists**

**FHWA Performance Goal:** Ensure the mobility of pedestrians (including people with disabilities) and bicyclists.

**FHWA FY2000 Performance Measure and Target:** Measure and target to be developed in FY 2000.

**Why We Act:** Federal, State and local agencies are working to maximize the capacity and effectiveness of the current transportation system by increasing the miles of highways and roads that are accessible to pedestrians and bicyclists. This will result in a higher percentage of personal trips being taken by pedestrians and bicyclists, which will ease congestion and reduce demand for highways. These facilities will also provide access for people with disabilities. Increasing mobility for pedestrians and bicyclists supports the Administration's Livability Initiative.

**Mobility of Pedestrians and Bicyclists**



**Activities and Initiatives in FY 2000:**

- Develop a measure of existing pedestrian and bicycle mobility and a target for improvement.
- Develop and begin delivery of training, technical assistance, and best design practices through the Pedestrian and Bicycle Information Center and pedestrian, bicycle, and accessibility partner organizations.

**Operations:**

**We Aim to Achieve This Strategic Objective:**

- Improve the operation of the highway systems and intermodal linkages to increase transportation access for all people and commodities.

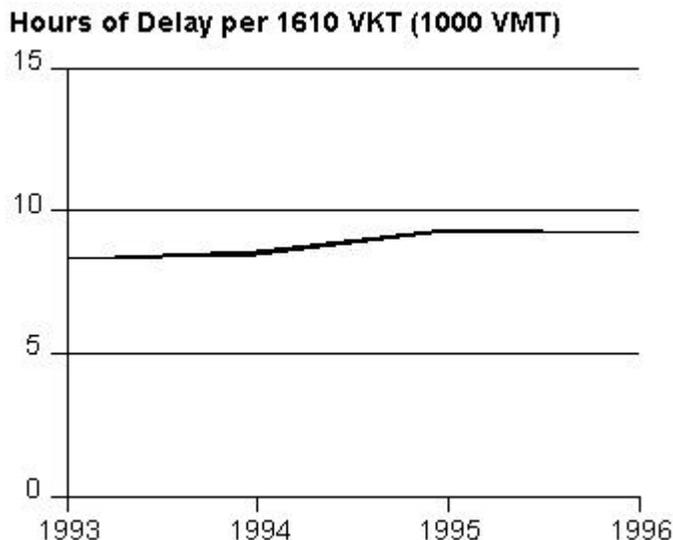
**Highway Congestion**

**FHWA Performance Goal:** Reduce delays on Federal-aid Highways

**FHWA FY 2000 Performance Measure and Target:**

Reduce delays on Federal-aid highways from the 1996 baseline of 9.2 hours of delay per 1,000 VMT to 9 hours of delay. That milestone was met in 1997. This represents a decrease of 12 minutes from the FY 1996 level of 9.2 hours.

**Why We Act: (Background)** This last year the Federal Highway Administration (FHWA) reorganized to better align its organizational programs, human and fiscal resources around the five strategic goals in the FHWA Strategic Plan. In the discussion surrounding the reorganization, there was recognition that enhanced mobility, productivity, safety and to a lesser extent national security could be achieved via a spectrum of strategies ranging from physical infrastructure expansion and renewal to improved operations on existing infrastructure. Separate core businesses of Infrastructure and Operations were formed – recognizing the importance of both strategies in achieving the range of goals in the Strategic Plan. The leaders of the two core businesses were both charged with championing the achievement of the mobility and productivity goals using the strategies inherent in their respective core businesses.



**Special Challenges:** Lane mileage has increased at an annual rate of 0.3 percent from 1987 to 1997, while highway travel has increased at an annual rate of 2.9 percent for the same period. Increased congestion is a result of this disparity.

**Strategies:** The underlying four strategies and performance initiatives associated with achieving the strategic objective of *improving the operations and efficiency of our surface transportation system* are to:

1. **Implement Integrated ITS Infrastructure**
  - A. *Architecture and Standards*
  - B. *Tests and Demonstrations*
  - C. *Tools, T2, and Training*

Virtually all of the strategies that could be employed to achieve the strategic objective of improving operations on the highway transportation system can be enhanced or enabled with ITS infrastructure – e.g., freeway management, signal control, incident management, value pricing, traveler information, emergency response, weather response management and so on. If the sensing, information and communication technology associated with any one of the operations strategies is capable of being integrated into information and communication infrastructure used for another strategy, the cost for deploying any one operations strategy goes down, and its effectiveness is likely to improve. Therefore, deploying integrated (or integrateable) electronic and communication infrastructure to enable or enhance various operations functions is the number one long term priority to achieving the agency's strategic operations goals and establishing a national surface transportation operations capability.

To achieve this end we have over the last decade:

- Carried out a series of operational tests,

- Developed a National System Architecture,
- Established Model Deployment Sites,
- Launched the development of National Standards, and
- Set a National Deployment Goal, and established a tracking system to monitor achievement.

## 2. Low Hanging Fruit

- A. *Work Zone*: Our evidence suggests that one of the most visible evidences of *the lack* of "good operations" is the delay and frustration that drivers experience in road construction and maintenance zones. Work zones are also a site of primary risk for accidents involving both workers and drivers. The most recent National Quality Initiative survey found the delay associated with work zones to be the leading irritant associated with various forms of congestion (rush hour, toll booth, incidents, volume based, etc). Congress has signaled its concern with delays associated with work zones in the ISTEA language and both American Road and Transportation Builders Association and the American Association of State Highway and Transportation Officials (AASHTO) have called on FHWA to focus on this particular source of user delay.
- B. *Manual on Uniform Traffic Control Devices and Passive Traffic Control*: One of the most basic methods we use to manage and control the operation of our street and highway system are signs, signals and markings. In many areas these passive communications coupled with enforcement constitute the bulk of "operations." The standards for these signs, signals and markings are recorded in the Manual of Uniform Traffic Control Devices (see 23 CFR 655.601-603, 23 U.S.C. 109(a) and 402). That Manual was last updated in 1988. Since then there have been numerous changes in technology, accepted practices, and demands for signage.
- C. *Weather*: Snow, rain, ice, fog and other inclement weather substantially reduce the capacity of many road systems. The resulting hazardous driving conditions also result in a high proportion of crashes and fatalities. It has been estimated that the cost of a 1 day highway shutdown due to snow is between \$15 million and \$76 million in lost time, productivity, and wages. Response to inclement weather is often a substantial portion of a city or state's operation budget.

To the extent that capacity reducing weather variations can be anticipated, communicated and more precise mitigation measures executed we improve system efficiency, reduce operating cost and the number of crashes. Hence we consider "weather response" a high payoff area for immediate investment.

- D. *Travel Management*: The operations of surface transportation systems should be a fundamental consideration in all decisions related to an area's transportation needs. Travel management links the agency's mobility, productivity and safety strategic goals. Operating agencies sharing their successful methods of improving the public's level of mobility helps improve the operation of the highway systems. These operational improvements result in increased access to transportation, as well as improved economic efficiency of highway transportation. With mobility demands continually increasing in the future, the highway community's challenges are great. Improved highway operations will result from ensuring integration and deployment of ITS technologies to increase the capacity of the current highway system, and identifying and sharing effective management systems and practices that address congestion, safety, incident management, and other operational issues.

## 3. Measurement/Megaphone to Customers

Developing measures of success, and developing an operations constituency efforts will provide a foundation for FHWA internal strategic planning discussion, long term measures that can be used nationally and locally, planning guidelines (required by TEA-21) based on actual practice and national measures of success, legislative agenda, research agenda and perhaps most important, the development of local operations "groups" that will begin or strengthen a drive to improve the operations of the local and regional surface transportation systems.

## 4. Laying a Foundation for Operations

Historically FHWA has pursued a primary strategy of improving national **mobility** and **productivity** by increasing, rebuilding, or otherwise enhancing the physical highway infrastructure. Pursuit of that primary strategy has developed policy, financing, planning, analysis tools, regulations – indeed, a culture driven by "projects" –planning for them, evaluating alternatives, financing them, designing them, building them....*and moving on to the next project*. Pursuing an additional strategy of enhancing operations to improve **mobility**, efficiency and **productivity**, will require the organization and its implementing partners to expand their culture,

policy, financing, planning and analysis tools to accommodate the *continuous* and *performance driven* nature of operations.

Operations will require new partnerships with new public and private stakeholders, new planning practices, new analytic and decision support tools and above all metrics which truly relate to the users perception of how well or how poorly the system is operating. It will also require the development of diagnostic and predictive measures as well as packaging results from benchmarking activities into a variety of "best practices" for handling routine and non-routine variances in the operations of the surface transportation system.

We recognize that we are neither beginning from scratch (there is a history of operations "activities" ranging from ride-sharing to ramp metering going back several decades), nor are we building on a solid well established scientifically or academically defined discipline.

**Other Federal Programs with Common Outcomes:** FTA and FRA programs alleviate highway congestion by giving travelers alternative transportation options in an intermodal system. Additionally, delay is reduced through NHTSA programs that reduce crashes on the Federal-aid highway network.

## Activities and Initiatives in FY 2000:

### ONGOING ACTIVITIES

- In FY 2000 we will build off of the foundation that has been laid to deploy an integrated ITS infrastructure across the United States. Our efforts will be focused on implementing the National ITS Architecture and standards through an aggressive testing and training program that includes the FHWA field staff, state and local governments, and the private sector; fostering the integration of ITS technologies in metropolitan and rural areas through the development of ITS service plans and the implementation of the ITS Integration program; demonstrating statewide and rural ITS services through a growing rural operational test program; and advancing the state-of-the-art in metropolitan ITS infrastructure through continued research and development.

### NEW ACTIVITIES AND INITIATIVES

#### 1. Implement Integrated ITS Infrastructure

##### A. Architecture and Standards

- *ITS Deployment - Deploy and integrate ITS, and document real-world benefits for passenger and freight movement.* (Flagship) [\$120 million]
- 51 Metro Areas will be in medium to high deployment class
- Measurably improve ITS professional capacity of FHWA field staff
- Publish NPRMs and Final Rules on Architecture Consistency and Outreach Material and NPRM for DSRC
- Roll-out Turbo Architecture
- Complete 60 balloted standards
- Foster use of NTCIP standard through testing and education
- Have tests underway of 30 standards; complete 15 tests of standards

##### B. Tests and Demonstrations

- National Park operational test up and running
- Award 60 integration projects

##### C. Tools, T2, and Training

- Roll-out IDAS Build II; launch training
- 55 Service Plans developed and implemented for 55 metropolitan areas
- Train 1200 public/private professionals in the use of the National ITS Architecture
- 25 evaluation studies completed
- Take 600 FHWA staff and partners through hands-on architecture development workshop
- Procurement: guidance to field, case studies, initiate training
- Submit 5 year plan to Congress; launch 10 ITS

- Research agenda development

## 2. Low Hanging Fruit

### A. Work zone

- Tool box of best practices, including outreach program
- Deliver ARTBA drivers education video focused on work zones
- National Work Zone Awareness Week
- Work zone and traveler information conference
- Begin Phase 2 Research and development effort (inventory and gap analysis; user delay cost trade off model; methods for reducing contract time)

### B. Manual on Uniform Traffic Control and Passive Traffic Control

(Publish MUTCD rewrite in December 2000 )

- Publish 7 NPAs or updates of NPAs; publish 9 NPAs or NPRMs follow-ups
- Development of outreach material for MUTCD rewrite
- Publish NPAs for: color specifications; centerline edgeline; highway signs; retroreflectivity
- Report to Congress on food service signs

### C. Weather

- Draft surface transportation weather requirements
- Conferences on: 1) National weather requirements, 2) National weather disaster response, and 3) Weather response
- Launch decision support initiative for weather response (RWIS siting; software development)
- Complete initial FORTELL evaluation
- Publish results of infra-red ice detector
- Weather and winter mobility web site

### D. Travel Management

- Draft operations planning guidelines
- Program advice to field for ILEVs on HOV lanes
- Develop an HOV training course
- Deliver case study on NJ HOV lane
- Technical guidelines for HOT lanes
- Award 6 value pricing planning studies
- Incident management handbook

## 3. Measurement/Megaphone to Customers

- Complete round 2 of ITS tracking survey (metropolitan; CVISN)
- Development of travel time measure (review of options; begin test of data collection)
- Customer satisfaction base measure (BTS survey; analysis)
- National conference on operations measurement
- Outreach/marketing for N11

## 4. Laying a Foundation for Operations

(Begin a National Dialogue on "Operations")

- National steering committee for operations
- National operations conference
- Series of regional focus groups for consensus building
- State of practice and art white papers: freeway management, emergency management, arterial management, travel demand management, and performance analysis tools
- Launch development of best practices and research agenda
- Develop prototype adaptive control-lite
- Rewrite of CORSIM
- Deploy alternative transportation and ITS in FLH.

## NHS Intermodal Connections

**FHWA Performance Goal:** Improve the efficiency and capacity of existing intermodal connections on the NHS and serve new intermodal facilities on the NHS as appropriate.

The performance measure, target, and supporting material for this performance goal are included in the Productivity goal section of this plan.

## STRATEGIC GOAL:

# Productivity

**Continuously improve the economic efficiency of the Nation's transportation system to enhance America's position in the global economy.**

Highways represent a central element of the national transportation system. Almost 90 percent of all personal transportation takes place on highways. Similarly, 72 percent of freight (dollar value) is transported over our highways. FHWA is committed to lowering the costs that congestion places on families and businesses, allowing highway users to better spend time and fuel costs wasted by delay. Because highways are a critical part of the intermodal transportation system, minimizing transportation costs will boost national productivity and enhance the Nation's competitiveness. Lowering delay is particularly important for emerging industries, like warehousing and logistics, where speed and reliability are the most important elements in a business strategy. FHWA is determined to improve efficiency in the use, provision, and financing of the national highway system, recognizing that smarter investment decisions will improve the long-term maintenance of transportation infrastructure.

### We Aim to Achieve These Strategic Objectives:

- Improve the economic efficiency of highway transportation
- Improve the return on investment of the highway system

The following performance goals will be used to gauge our progress in advancing our and the Department's outcome goals for improving the economic efficiency of the Nation's transportation system.

## Highway Congestion

**FHWA Performance Goal:** Reduce delays on Federal-aid highways

To achieve this performance goal we have pursued initiatives directed at general traffic stream. In an effort to eliminate redundancy the supporting information appears in the **Mobility Goal-Operations** section of this plan.

## NHS Intermodal Connections

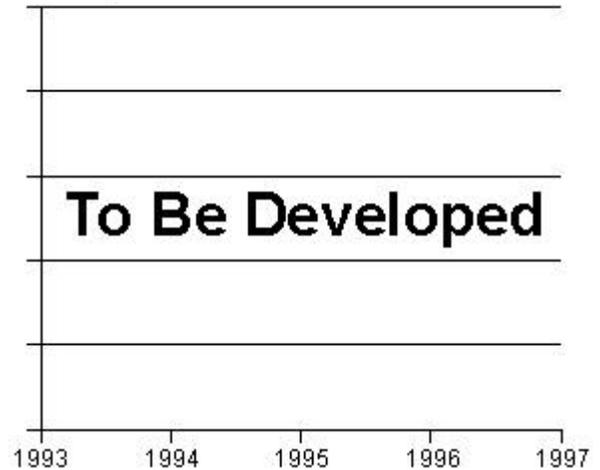
**FHWA Performance Goal:** Improve the efficiency and capacity of existing intermodal connections on the NHS and serve new intermodal facilities on the NHS as appropriate.

**FHWA FY 2000 Performance Measure and Target:**

Measure and target are being developed. In 1998, FHWA initiated a major study to complete an inventory and evaluation of the condition of the NHS intermodal connections as part of a larger effort to prepare a report to Congress required by TEA-21. FHWA is deciding how best to establish targets and collect periodic data.

**Special Challenges:** Growth in the U.S. economy has translated into over 2% annual growth in vehicle miles traveled. In addition, the 4 percent growth rate of combination truck traffic over the 1985 through 1995 period exceeded that for all types of vehicles by 0.7 percent. The NHS intermodal connections are critical links in serving the increased travel as part of the Nation's intermodal transportation system.

**Efficiency of Intermodal Connections**



**Other Federal Programs with Common Outcomes:** None

**Highway Freight Cost**

**FHWA Performance Goal:** Reduce the cost of highway freight per ton-kilometer.

**FHWA FY 2000 Performance Measure and Target:** The baseline and target are being developed.

**Special Challenges:**

Carriers are reluctant to provide data on freight transportation that might unintentionally assist competitors.

**Other Federal Programs with Common Outcomes:** None.

**Cost of Highway Freight per Ton-Kilometer**



**Congestion on NHS Border Crossings**

**FHWA Performance Goal:** Reduce highway-related delays on NHS border crossings.

**FHWA FY 2000 Performance Measure and Target:**

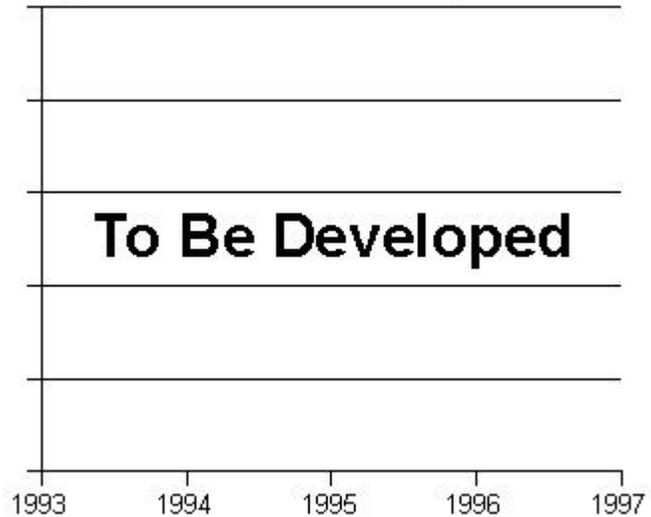
Hours of delay/1000 vehicles processed at NHS border crossings. Target and baseline are being developed.

**Special Challenges:** Truck traffic with both Canada and Mexico is expected to grow with an expanding economy, straining existing capacity. Efficient movement of trucks must be balanced with vehicle safety, immigration, and customs requirements. Accordingly, physical infrastructure is less a factor in border delays than other vehicle processing requirements.

**Other Federal Programs with Common**

**Outcomes:** The International Border Clearance Planning and Deployment Committee which includes participation by the Operations and Motor Carrier and Highway Safety Core Business Units is ensuring that all government-run border crossing projects and ITS projects are compatible with one another. This committee includes representatives from the U.S. Customs Bureau, the U.S. Bureau of Immigration and Naturalization, and the governments of Canada and Mexico. Six testing centers along the Mexican and Canadian borders evaluate ITS technology in processing people and goods at international crossings. The FHWA is also working with the U.S. Department of State and the Mexican government to complete a bi-national study of trade flows and planned infrastructure improvements along the U.S./Mexico border.

**Congestion on NHS Border Crossings**



**Why We Act: (Background)** This last year FHWA reorganized to better align its programs, human and fiscal resources around the five strategic goals in the FHWA strategic plan. In the discussion surrounding the reorganization, there was specific recognition that the transportation of goods, is a key driver in the U.S. economy, and a key element in the overall competitiveness of the United States in the global economy. Transportation has historically defined the geographic breadth and therefore complexity (depth) of an economy. As sites of manufacturing become globally mobile, and as national economies begin to merge into a world market, we recognized the need to focus on the adequacy of our system to meet these demands and the need to consciously examine how we could make the use of the highway system more productive for shippers and carriers who are competing in an ever more competitive market. A special freight group was formed, separate from the Commercial Vehicle Operations regulatory function, and charged with this responsibility. While the core is housed in the Operations Core Business Unit, they will work with others across core business units in FHWA, and across the other agencies in DOT and the Federal government to address the issues of goods movement productivity and mobility in the United States.

The Intermodal Surface Transportation Efficiency Act (ISTEA) authorizing legislation introduced a sharper focus on intermodal goods movement and resulted in a number of initiatives that form the foundation for this new organizational focus. Significant among them are:

1. Greater focus on freight in the planning process
2. Innovative finance testing and evaluation
3. Congressional report on corridor and border infrastructure requirements
4. Development of public-private freight partnerships
5. Identification of the NHS and its critical intermodal connectors
6. Truck size and weight policy study

These initiatives identified four categories of variables or issues that potentially affect the efficiency and productivity of goods movement.

1. **Institutional Issues** –including such questions and issues as:
  1. leveling (or readjusting) the planning process to better reflect freight geography;
  2. conflicting practices and standards relative to North American trade transportation harmonization; and,
  3. lack of institutions for advancing multi-state trade corridors.
2. **Infrastructure Issues** - including such questions and issues as:
  1. adequacy of the physical condition of the system;
  2. how well does the system meet freight and defense logistics needs;
  3. impact of future demand and shifting load centers;
  4. what are the economic benefits of freight investments – where do they accrue relative to costs?; and,
  5. how effective are current freight infrastructure funding mechanisms?
3. **Operations Issues** -including such questions and issues as:
  1. information and communications standards;
  2. how can technology or other operational changes improve efficiency of multi-state corridors, intermodal transfer facilities, and border crossings?;
  3. flexible, streamlined and compatible business practices in border crossing transactions, state inspections, and various labor force issues; and,
  4. tracking, routing, and responding to hazardous goods movement.
4. **Regulatory Issues** – including:
  1. standardization of freight vehicle and equipment regulations;
  2. balance of productivity and environmental goals and regulations;
  3. impact of existing and proposed regulations; and,
  4. conflicting city and state regulations.

There isn't a shortage of issues! What does not exist is a holistic integrated set of strategies for addressing the issues. Nor is there a national policy and analytic framework that would help evaluate policy, regulatory, and investment options that might contribute to such a set of strategies and help pursue the goals of gaining greater efficiency and productivity out of our highway system for the goods movement industry. Such an analytic framework, along with answers to some of the key questions listed above, should help develop a cohesive set of freight improvement strategies that could shape future legislation.

Therefore, development of an analytic framework leading to an integrated set of freight strategies will be a primary short term milestone, necessary to charting a long term course for achieving improved efficiency and productivity for goods movement.

A key component of that effort will be developing (or validating) appropriate **measures** of productivity and efficiency on the highway system for goods movement. One or two nationally accepted robust national measures that are routinely monitored and reported would not only shed light on historic disagreements, they would form the basis for diagnostics, investment decisions and partnerships in achieving the goals that both we and the industry seek.

The explosion of information and communication technology, tracking and sensing technologies have opened up new possibilities for streamlining intermodal operations, regulatory transactions and for using resources more efficiently. Another key strategy to improving freight operations efficiency and productivity in partnership with industry, will be **testing the effectiveness** of advanced technology applications, developing an open architecture for their use and open standards.

Finally, TEA-21 has provided a special discretionary program for investing in **improving the efficiency** of borders and corridors. To the extent that those investments are specifically directed toward improving freight productivity and efficiency, we can have not only a direct effect on our performance goal, we can also learn more about the investment-to-improvement ratio.

**Strategies:** The six **primary strategies** that form the framework for the performance initiatives to improve freight

mobility and productivity are:

1. **Decision-making Framework** *necessary to develop a cohesive set of long term freight improvement strategies.*
2. **Nurture Freight/Trade Institutional Partnerships** *to leverage public and private investments in freight related infrastructure and intermodal operations improvements.*
3. **Directly Invest in Freight Productivity Improvements** *for direct improvements in productivity and reductions in delay at border crossings.*
4. **Test and Demonstrate Technology Applications** *to provide a long range foundation for interoperable information and communication infrastructure among private goods movement companies and the public agencies that provide the highway and intermodal infrastructure. Providing interoperable end to end traceability has the potential of cutting hours even days off transit time.*
5. **Performance Measures** *to serve as both a periodic national report card on "how well the system is performing" and as a diagnostic to help evaluate problems and potential policy, regulatory, infrastructure and other solutions.*
6. **Size and Weight Enforcement** *to protect the integrity of our infrastructure and promote safety among vehicles that must share the roadway.*

#### Activities and Initiatives in FY 2000:

#### ONGOING ACTIVITIES

The initial FY 1999 allocation of TEA-21 Border and Corridor Program funds have been awarded, with 24 projects totaling \$57.2 million made available for northern and southern border projects to improve border approach infrastructure, deploy technology to facilitate cross border commercial traffic flow, and improve the planning and coordination of border operations. For FY 2000, FHWA will work closely with FY 1999 grant recipients and future applicants to ensure that prior investments in border improvements are leveraged, that Customs and other Federal Inspection Services are involved in the border improvement process, that ITS and related operational technologies are fully considered as instruments of border improvements, and that FHWA takes a leadership role with other Federal agencies to ensure that cross border initiatives are complementary and coordinated.

#### NEW ACTIVITIES AND INITIATIVES

1. **Decision-making Framework**  
(Trade Flow Sensitivity Analysis by 1<sup>st</sup> quarter 2001)
  - Trade flow mapping capability
  - Freight financing report
  - Final report/data base on policy impacts of freight
  - NHS Connector Report to Congress
  - White paper on environmental issues
  - EU freight exchange
2. **Nurture Freight/Trade Institutional Partnerships**
  - Three multi-state strategic planning workshops
  - Complete CATS study
3. **Directly Invest in Freight Productivity Improvements**
  - Number of corridor and border projects awarded will be determined in December 1999. Award 11 CVISN development projects.
4. **Test and Demonstrate Technology Applications**
  - End to end process map complete

- Operational tests up and running
- MOA with Customs/Treasury
- Demo IBCSS and IBC programs with trade processing system
- CVISN level 1 running in 3 states

**5. Performance Measures**

- Recommendation on freight performance measures (final report and workshop)
- Recommendation on border crossing performance measures (end to end border crossing process analysis)

**6. Size and Weight Enforcement**

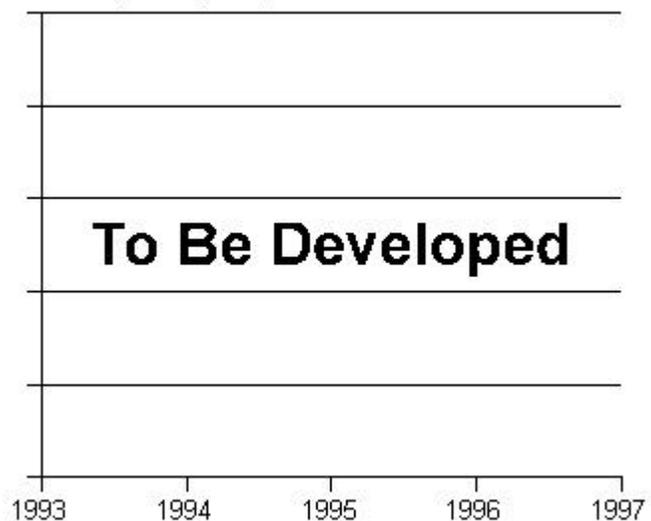
- Size and weight enforcement study
- Revised size and weight enforcement ANPRM
- Delegation of size and weight to field

**Cost-Beneficial Highway Investment (formerly Life Cycle Costs)**

**FHWA Performance Goal:** Improve the efficiency of highway infrastructure investments, by developing and promoting the use of engineering/economic analysis tools for decision making.

**FHWA FY 2000 Performance Measure and Target:** For FY 2000, FHWA has identified several immediate initiatives which will help FHWA to meet this long-term goal, including: (1) Establishing a pilot program with five states in FY 2000 to test the applicability of existing engineering/economic investment models, specifically the Highway Economic Requirements System (HERS) Model, to help states make highway program investment decisions; (2) Initiating development of a life-cycle cost analysis (LCCA) model for subsequent testing by states in FY 2001; and (3) Providing technical assistance to states in the implementation and use of PONTIS bridge management software.

**Efficiency of Highway Infrastructure Investments**



**Why We Act:** Engineering/economic analysis tools, including LCCA and benefit-cost analysis (BCA), can be used to improve the efficiency of highway investment decisions, since they provide guidance for decision makers on the economic benefits and costs from alternative highway investment options. Such information is valuable because it reveals investments where the economic returns are greatest, and allows decision makers to achieve a performance goal at the lowest cost. This maximizes the efficiency of the taxpayers' highway investment dollars, and saves motorists money as a result of less vehicle wear and tear and reduced congestion-related costs. Although a considerable number of states currently use such tools as LCCA and BCA in some capacity, there is much diversity in application, and most states do not consider the full range of costs and benefits when conducting these analyses. For instance, only one-quarter of the states which use LCCA include user costs, even though user costs (e.g., travel delay, vehicle operating costs, and accidents) can be a significant portion of the total impacts associated with alternative highway project decisions.

**Special Challenges:** Reasons for the lack of comprehensive use of engineering/economic investment tools such as LCCA and BCA by states include limited research budgets, a lack of in-house expertise, and a lack of data and tools designed specifically for comprehensive LCCA at the project and program levels.

**Strategies:** FHWA is providing assistance to states in several ways. First, the FHWA Office of Asset Management is initiating a pilot program to introduce five states to the HERS Model, an investment analysis tool which provides state-level decision makers the ability to evaluate the effect of alternative investment programs and policies on the

condition, performance, and user and agency cost levels associated with their highway systems. Additionally, the FHWA Office of Asset Management plans to begin development of a model which specifically performs LCCA for highway segments at the project level. Also, FHWA will continue to provide technical assistance and managerial support on the development and implementation of the PONTIS Bridge Management System, a benefit-cost analysis tool used by states to evaluate alternative improvement options for a system of bridges.

**Other Federal Programs with Common Outcomes:** None.

### Activities and Initiatives in FY 2000:

#### ONGOING ACTIVITIES

- Solicit input from FHWA and states and develop updated materials for PONTIS.
- Provide technical materials on PONTIS to selected states.
- Update NHI Course on Bridge Management Systems to incorporate PONTIS updates.

#### NEW ACTIVITIES AND INITIATIVES

- Initiate modifications to HERS so that the model can be applied at the state-level for highway investment requirements analysis (e.g., HERS-ST version).
- Develop fact sheet for HERS-ST Model for use in promoting pilot program.
- Hold briefings with FHWA Resource Centers, FHWA Divisions, and states to introduce HERS-ST Model and promote pilot program
- Initiate development of comprehensive LCCA model for highway segments at the project level.
- Initiate development of NHI Course on Optimal Timing of Preventative Maintenance Treatments.

#### STRATEGIC GOAL:

## Human and Natural Environment

### Protect and enhance the natural environment and communities affected by highway transportation.

Highways and transportation facilities have major effects on the quality of life in communities and the quality of the natural environment. Through Federal-aid programs, regulation, incentives, training research and new technologies, we will work with our partners to ensure highway facilities enhance the natural environment.

#### We Aim to Achieve These Strategic Objectives:

- Enhance community and social benefits of highway transportation
- Improve the quality of the natural environment by reducing highway-related pollution and by protecting and enhancing ecosystems.

The following performance goals will be used to gauge our progress in advancing our and the Department's outcome goals for the Nation's human and natural environment.

#### Community and Social Benefits Enhancement

**FHWA Performance Goal:** Increase public satisfaction with highway systems and highway projects as a beneficial part of their community.

**FHWA FY 2000 Performance Measure and Target:**

- (1) Public satisfaction with highways (to be developed).
- (2) Increase the percentage of Environmental Impact Statements (EIS's) with the Environmental Protection Agency's (EPA) highest rating (Lack of Objection<sup>1</sup> (LO)) from the 1988–1998 average of 22 percent to 35 percent in 2000.

**Public Satisfaction with Highways**



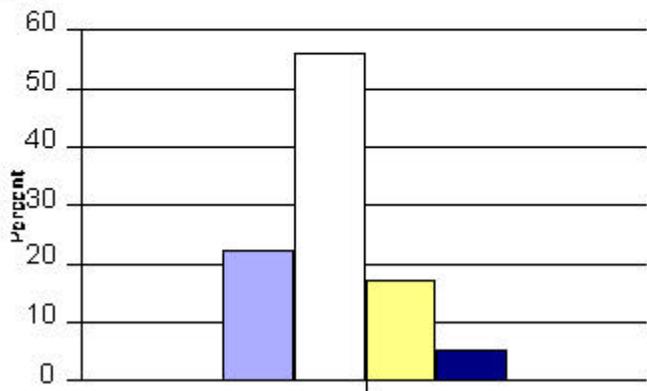
**Why We Act:** Highways and transportation facilities are major contributors to the quality of life in communities. FHWA's objective is to enhance community and social benefits of highway transport by ensuring that transportation plans address the community concerns and social impacts of transportation facilities, by recognizing the role of transportation in supporting welfare-to-work, mobility for people with low incomes, and accessibility for people with disabilities, and by reducing the adverse effects of siting, construction and operation of transportation facilities on the communities, particularly disadvantaged communities.

**Special Challenges:** The American public has multiple and disparate expectations for transportation and quality of life.

**Strategies:** The FHWA will foster community and regional level transportation solutions through enhancements in urban and rural community planning. FHWA will develop and share tools for State, local, Federal land management agencies, and tribal government planners to effectively incorporate environmental justice and the preservation of scenic, historic, natural, and community resources, as well as traffic safety into transportation plans. To accelerate and improve decision making, FHWA will promote processes which effectively integrate Federal, State, and local transportation, land use, and environmental decision making in a streamlined and timely manner.

Summary of EPA Ratings 1988 to 1998

- Lack of Objection
- Environmental Concern
- Environmental Objections
- Environmentally Unacceptable



**Other Federal Programs with Common Outcomes:** FHWA will continue to work closely with EPA, other Federal resource and permitting agencies, State and local officials, and stakeholders to promote and implement effective, streamlined environmental decision making.

## Activities and Initiatives in FY 2000:

### ONGOING ACTIVITIES

- FHWA partners with States, Metropolitan Planning Organizations, urban centers, and communities to strengthen the links between highways and communities as reflected in sustainable transportation and land use decisions, improved options for transportation, and reduced environmental impacts. The FHWA continues to implement and oversee the Surface Transportation Enhancements program, the Congestion Mitigation and Air Quality program, the Scenic Byways program, the Recreational Trails program as well as the Transportation and Community and System Preservation Pilot Program, which fosters alternative transportation options and promotes more livable communities and a variety of environmentally beneficial programs.

### NEW ACTIVITIES AND INITIATIVES

- Establish a baseline and target that measures public satisfaction with highways through public surveys.
- Issue NEPA guidance to the field to improve Division office EIS activities.
- Partner with States, Metropolitan Planning Organizations, urban centers, and communities to strengthen the links between highways and communities as reflected in sustainable transportation and land use decisions, improved options for transportation, and reduced environmental impacts. The FHWA continues to implement and oversee the Transportation Enhancement Program, as well as the Transportation and Community and System Preservation Pilot Program, which fosters alternative transportation options and promotes more livable communities and a variety of environmentally beneficial programs.
- In partnership with other DOT modes, State DOTs, Federal resource and permitting agencies and other interested entities, implement an enhanced transportation and environmental decision making process which responds to TEA-21 and other objectives identified by the Department (e.g. through the National Performance Review and other outreach efforts). Improve FHWA capabilities to carry out the enhanced process through organizational restructuring, staffing actions, training and information sharing, and development of quality and accountability mechanisms.
- *Environmental Streamlining: Issue Final Rulemakings on NEPA and transportation planning to promote and facilitate environmental streamlining.* (Flagship)
- Develop and issue guidance to field and partners for regulatory (and non-regulatory) aspects of the environmental streamlining process.
- Implement interagency streamlining partnering efforts in each field Division.
- Develop performance measures/benchmarks for environmental streamlining and develop information on baseline conditions.
- Noise: Evaluate the accuracy of new generation highway traffic noise prediction model, FHWA TNM, and make adjustments if necessary.
- Issue final rule for Real Estate Program regulations.
- *TCSP: Evaluate the progress and strategic direction of the TCSP, award grants, conduct and publish program evaluation, provide technical assistance and outreach, and share best practices. Participate in national conferences on transportation and livability to coordinate, leverage and showcase a range of innovative strategies that foster livable communities through transportation investment and operations.* (Flagship Initiative)
- Designate National Scenic Byway and All-American Roads through National Scenic Byways program.
- *Environmental Justice: Produce guidance, training, case studies, and research to advance environmental justice in State and metropolitan planning and project development.* (Flagship)
- *Sustainability - Enhance and coordinate programs, education, and outreach to make transportation an effective tool for livable communities. Conduct 3 DOT-sponsored sessions at the National Town Meeting for Sustainable America in Detroit, May 2-5, 1999. Establish a virtual DOT Center for Climate Change and Sustainability to develop DOT-wide strategies. Coordinate Federal initiatives to reduce congestion and pollution in Washington, D.C.*
- *Develop and distribute evaluation models: 1) Benefits Estimation and Assessment Model (BEAM) for assessing transportation decision making; 2) the ITS Deployment Analysis System (IDAS) model and the integrated Surface Transportation Efficiency Analysis Model (STEAM/IDAS) to mainstream ITS into the planning process; 3) the Strategic Cost and Revenue Estimation (SCARE) model for financial analysis for planning and programming; and 4) the Small and Medium Sized (SAMS) urban area website to assist SAMS areas in use of appropriate planning techniques.* (Flagship)
- Award contract to commercialize TRANSIMS. Select MPOs to participate in TRANSIMS early deployment

program. Distribute research version to universities.

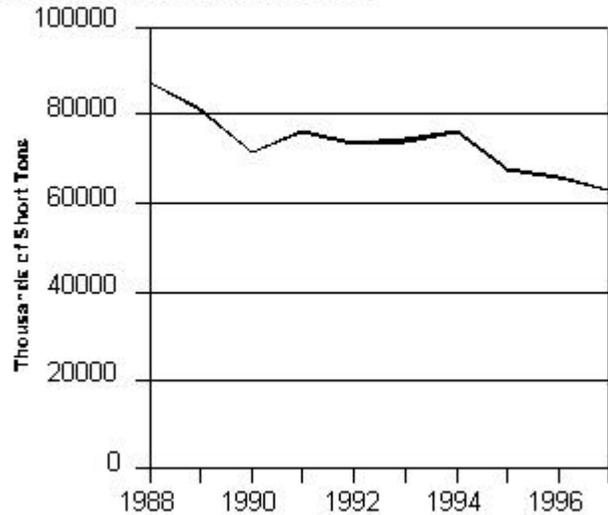
## On-Road Mobile Source Emissions

**FHWA Performance Goal:** Reduce on-road mobile source emissions

**FHWA FY 2000 Performance Measures and Targets:**

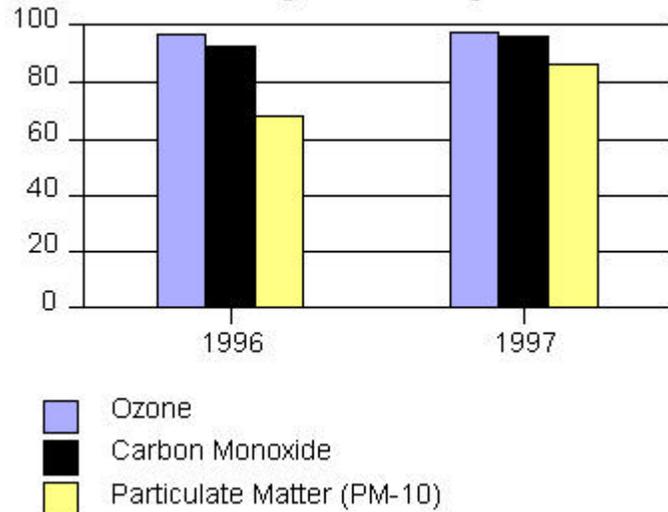
- 1.) Reduce the on-road mobile source emissions by 2% from 1999 to 2000, to a target level of 62.7 million short tons. The 1996 baseline was 65.9 million short tons.
- 2.) Increase the percent of non-attainment and maintenance areas meeting their mobile source emissions budget goals by pollutant: to more than 98 % for ozone, 96% for carbon monoxide, and 86 % for particulate matter from the 1996 baseline of 96.7, 92.6 and 68.2.

**On-Road Mobile-Source Emissions**



**Why We Act:** The National Ambient Air Quality Standards target six major pollutants as among the most serious airborne threats to human health. Transportation accounts for almost 50% of the air-polluting emissions in this country. On-road mobile source emissions contribute about 70% to total mobile source emissions. The mobile source related pollutants of greatest concerns are carbon monoxide, ozone, and particulate matter. The quality of our air is a public good, and the cost of these pollutants is not captured in the marketplace. For this reason, the FHWA works to mitigate this negative impact.

**Percent of Areas Meeting Emissions Budgets Goals**



**Special Challenges:** Growth in the U.S. economy has translated into over 2% annual growth in vehicle miles traveled, which reduces the emissions benefits of cleaner cars and cleaner fuels. In addition, as the new National Ambient Air Quality Standards (NAAQS), as revised in July, 1997, begin to phase in during FY 2000, FHWA will face new challenges in meeting the air quality targets. In nonattainment and maintenance areas, the impending impacts of the revised NAAQS are expected to increase the challenge of meeting the transportation conformity requirements.

**Strategies:** FHWA aims to reduce mobile source emissions by encouraging the use of less polluting transportation; researching and modeling the emissions impacts of investment choices; and supporting the development of fuel- and emission-efficient vehicles. Through research, new technologies, and analytical models, FHWA will promote the construction, maintenance, and use of transportation systems that are compatible with the national environmental objectives. In partnership with our stakeholders, we will support the development of environmental analytical models to assist decision makers. FHWA will provide resources, flexibility, and technical assistance for States and local agencies to assist compliance with the revised NAAQS, especially in reducing transportation-related emissions.

**Other Federal Programs with Common Outcomes:** FHWA efforts support the government-wide goals for achieving the National Ambient Air Quality Standards. Cooperative programs with EPA include: The Transportation and Air Quality public education initiative; implementing the transportation conformity regulation and the CMAQ Program; and conducting research on various strategies that target the reduction of mobile source emissions.

### Activities and Initiatives in FY 2000:

#### ONGOING ACTIVITIES

- The FHWA continues to (1) implement and oversee the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, which targets transportation investment to reduce mobile source emissions and reduce congestion, (2) monitor nationwide implementation of the conformity regulation and address conformity issues in a timely fashion to assist State and local efforts to meet conformity requirements and clean air goals, and (3) support research on transportation and air quality analysis, develop/disseminate information on effective approaches to improve air quality, and evaluate emissions impacts and cost-effectiveness of transportation strategies.

#### NEW ACTIVITIES AND INITIATIVES

- *Advanced Vehicle Technology - Cosponsor projects of federal, state, and local governments, academia, and U.S. companies to develop, demonstrate, and deploy advanced technologies for U.S. built light-, medium-, and heavy-duty vehicles.* (Flagship)
- Continue the transportation and air quality public education campaign on the relationship between transportation choices and emissions impacts at 14 sites.
- Assist EPA to finalize the Transportation Conformity Regulation for Transitional Ozone Nonattainment Areas and provide new guidance for areas affected by the new rule.
- Begin a National multi year PM 10/2.5 emission data collection effort in cooperation with State Transportation Agencies to support the implementation of the new NAAQS and in preparation for the development of a geographic and facility sensitive PM 10/2.5 emissions model in coordination with the US EPA.
- Participate in the DOT Center to develop DOT-wide strategies and policies on climate change and livability. Conduct research to develop and test potential strategies to effectively reduce greenhouse gas emission from transportation.

#### Wetland Protection and Recovery

**FHWA Performance Goal:** Increase net wetland hectare area (acreage) resulting from Federal-aid highway projects.

**FHWA FY 2000 Performance Measure and Target:**

On a program-wide basis, replace at least an average of 1.5 acres of wetlands for every 1 acre directly affected by Federal-aid Highway projects where impacts are unavoidable.

**Why We Act:** Wetlands are a critically important natural resource. They provide natural filtration of water pollutants, and they store and slow down the release of flood waters, thereby reducing damage to downstream land uses. Wetlands also provide essential habitat for wildlife and sustain biodiversity. But many of the Nation's wetlands have been lost to development over the years, before their value was fully recognized. Highways and other transportation facilities (siting, construction, and operation) can be significant factors affecting these ecosystems.

As outlined in the Federal-aid wetlands section, roads built on Federal land must also be improved and maintained with consideration given to the critical role of wetlands. Federal agencies have a stewardship responsibility to ensure that the highest environmental standards are met. Because road construction can significantly impact factors affecting ecosystems, the Federal Lands Highway Office goes to great lengths to protect and enhance wetlands as a vital natural resource.

**Special Challenges:** Wetland impacts are sometimes unavoidable, particularly in construction of bridge crossings. In addition, projects on existing alignments can cause adverse wetland impacts that are impracticable to avoid, because the only avoidance alternative may be construction on entirely new alignment. In areas where the concentration of wetlands is high (e.g. southern bottomlands, uppermidwestern prairie potholes, and eastern pine flatwoods), transportation projects must cross wetlands to provide accessibility to the area.

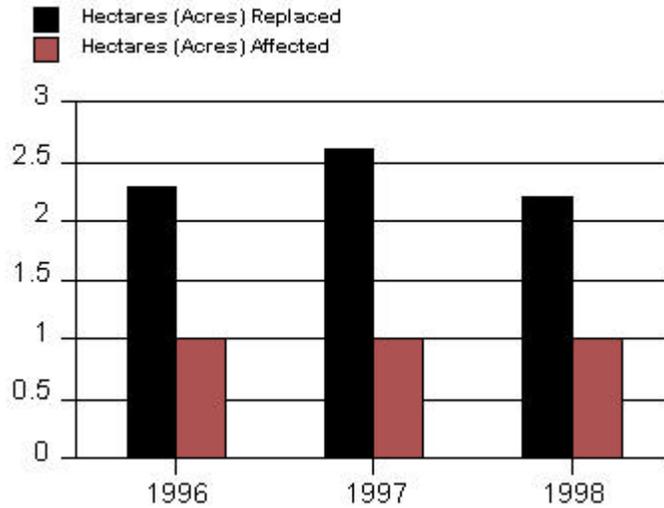
Many of the Federal Land Highway Projects are in arid areas. The creation of new viable wetlands in these areas is a challenge to construct.

**Strategies:** Through research, new technologies and analytical models, management training, and development of technical transfer documents, FHWA will promote the construction, maintenance, and use of highways that are compatible with national environmental objectives and that conform with the Clean Water Act.

FLH will promote the construction, maintenance, and use of Federally-owned highways that are compatible with the national environmental objectives. In partnership with stakeholders, FLH will promote initiatives to protect and enhance ecosystems on a programmatic basis, including the use of inventories, partnerships with resource agencies, and practices such as the creation of new wetlands and wetland banking. FLH will provide resources, flexibility, and technical assistance for Federal land management agencies to ensure compliance with environmental standards.

**Other Federal Programs with Common Outcomes:** The Federal-aid Program will continue to coordinate wetlands

**Ratio of Wetland Replacement**



Year	Replaced	Affected
1996	3554	1568
1997	4484	1699
1998	2557	1167

programs and research initiatives with the Environmental Protection Agency (EPA), the Departments of Interior and Agriculture, and the U.S. Army Corps of Engineers. The purpose of this coordination is to improve wetlands policies and to address the Vice President's Clean Water Action Plan by ensuring a net gain in wetlands.

FLH has jointly developed program goals and performance measures with Federal land management agencies in an effort to streamline the environmental processes.

### Activities and Initiatives in FY 2000:

#### ONGOING ACTIVITIES

- The FHWA continues the work to mitigate the environmental impacts of highway siting and improve wetland habitats. In partnership with our stakeholders, FHWA will support the development of environmental analytical models to assist decision makers. FHWA will promote initiatives to protect and enhance wetland ecosystems and restore historically impacted wetlands on a programmatic basis, including the use of inventories, partnerships with resource agencies, and practices such as wetland banking.
- To protect and enhance the natural environment and communities affected by highway transportation, the Federal Lands Highway Office (FLHO) will continue to partner with Federal land management agencies, US Fish and Wildlife, and the Corps of Engineers to emphasize the importance of air quality and wetland mitigation in achieving environmental goals.

#### NEW ACTIVITIES AND INITIATIVES

- Provide technical transfer of methods and techniques that have been successfully applied to mitigate impacts to wetlands, wildlife, ecosystems and habitat on transportation projects.
- Provide a model process based on the results of watershed pilot programs of the Washington State DOT and other sponsors that provide recommended techniques and practices to minimize transportation impacts on watershed functions and values.
- Support R&D to continue the development of new wetland evaluation technique, the Hydrogeomorphic or HGM assessment method in cooperation with U.S. Environmental Protection Agency and the U.S. Corps of Engineers.
- Define appropriate target goal for FLH wetland measure.
- Monitor and adjust FLH wetland measure.
- Identify and begin partnering with regulatory agencies with significant program workloads to streamline environmental processes.

#### STRATEGIC GOAL:

## National Security

### Improve the Nation's national defense mobility

The Federal Highway Administration is committed to improving the Nation's national defense mobility by improving the capacity and operation of the highway system to support mobilization. Highways are critical links for mobilizing and deploying military forces from U.S. bases.

#### We Aim to Achieve This Strategic Objective:

- Increase the level of satisfaction of DOD partners with highway transportation services to support mobilization initiatives

The following performance goal and measures will be used to gauge our progress in advancing our and the Department's outcome goal of assuring that the transportation system is secure and available.

#### DOD Partner Satisfaction

**FHWA Performance Goal:** Improve FHWA's effectiveness in carrying out its RETCO/RETREP responsibilities in support of the Office of Emergency Transportation.

**FHWA FY 2000 Performance Measure and Target:** Customer Satisfaction (to be developed).

**Why We Act:** Sometimes, destruction due to an emergency or natural disaster goes beyond local and State capabilities. In these situations, the Federal Government is called upon to help. The Federal Response Plan (FRP) establishes the system by which the overall Federal Government delivers assistance to State and local governments. Under the FRP, the Federal Government provides State and local governments with the necessary personnel, technical expertise, equipment, and other resources to do the job through the implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288). Transportation is one of the 12 Emergency Support Functions under the FRP. The FHWA, in support of the Office of Emergency Transportation (OET), has a key role in transportation emergency support function (ESF-1).

The DOT's principal field officials for management of ESF-1 are the Regional Emergency Transportation Coordinators (RETCO) who are assisted by their respective Regional Emergency Transportation Representative (RETREP). When activated, the RETCO/RETREPs become the Secretary's representative within their Regional area for all emergency preparedness matters, and cease to function under their own operating administrations to become part of the DOT's emergency organization. The FHWA has RETCO/RETREP responsibilities for the Emergency Preparedness Regions based on the old FHWA Regions 05, 07, and 08. The Director of the FHWA Midwest Resource Center is the RETCO. The Operations Core Business Unit provides support to the ESF-1 function.

**Special Challenges:** None.

**Strategies:**

Improve emergency response skills: The FHWA will ensure that its field staff have adequate training to be prepared for emergency response.

Adequate financial records: The FHWA will have a financial process that documents expenditures made during emergencies to support 100% reimbursement from the Federal Emergency Management Agency (FEMA).

Emergency Preparedness: Work with intermodal group to identify key threats and vulnerabilities and the ability to respond with effective countermeasures to protect our highway systems.

**DOD Customer Satisfaction**



**Other Federal Programs with Common Outcomes:** The FHWA is part of a ONE-DOT Flagship initiative team lead by OET to ensure ESF-1 strategic goals are achieved.

**Activities and Initiatives in FY 2000:**

**NEW INITIATIVES**

- Provide Office of Emergency Transportation emergency services training to FHWA Federal-aid and Federal Lands Highway Divisions.
- Develop and implement process and procedures to ensure proper audit trail to support reimbursement by FEMA.
- Establish and train emergency response team.
- Develop Continuity of Operation (COOP) Plan
- Complete updates of Emergency Highway Traffic Regulation Plans
- Train 100% of Division Emergency Management coordinators
- Coordinate FHWA Y2K crisis center communication and damage assessment.
- Evaluate Y2K efforts.

**FHWA Performance Goal:** Improve the capacity and operation of the Strategic Highway Network (STRAHNET) and strahnet connectors to support defense mobilization.

**FHWA FY 2000 Performance Measure and**

**Target:** Condition of STRAHNET and STRAHNET connectors. This indicator will be developed in 2000.

**Why We Act:** The Federal Highway Administration (FHWA) is committed to improving the Nation's national defense mobility by promoting the improvement of the condition, capacity, and operation of the highway system serving military installations. Highways are critical links for mobilizing and deploying military forces from U. S. bases. The FHWA, in partnership with State transportation agencies, administers the Federal-aid Highway Program that funds roads and bridges located on the STRAHNET and STRAHNET connectors. The FHWA also manages the national data on condition of roads and bridges including the STRAHNET and STRAHNET connectors. This information is provided to the Department of Defense's (DOD) Military Traffic Management Command Transportation Engineering Agency (MTMCTEA) to support their national defense strategies. The FHWA also provides assistance in Emergency Highway Transportation Plans to ensure integration of military deployment needs. Also, FHWA administers the Defense Access Road Program funded by the DOD with MTMCTEA. The FHWA assures effective coordination among Federal, State, and local agencies to ensure that the highway infrastructure, communications, and technology can support national defense strategies. Accomplishment of this strategic goal and objective ensures that the surface transportation physical and information infrastructure and technology are adequate to facilitate military logistics during training exercises and deployment and mobilization (DOT Outcome Goal).

**Condition of STRAHNET**



**Special Challenges:** Linear reference systems for the NBI condition data is incomplete and needs to be further refined. Also, it is desirable to have two-way data attributes for road direction (i.e., northbound and southbound directions) to allow dual location of bridges to support directional highway routing.

**Strategies:** Enhancing Defense Mobilization Planning: The FHWA will assist updating and refining data systems, with GIS linkage, describing condition of road and bridges on STRAHNET and STRAHNET connectors. First priority will be on the STRAHNET and STRAHNET connectors serving the 17 power projection platforms.

Investment in STRAHNET and strahnet Connectors: The FHWA, in partnership with MTMCTEA and State and local highway agencies, will provide guidance and promote Federal-aid Highway investment in STRAHNET and STRAHNET connectors to reduce deficient roads and bridges. First priority will be on the STRAHNET and STRAHNET connectors serving the 17 power projection platforms.

STRAHNET and STRAHNET Connector Operation: The FHWA will work with the MTMCTEA to improve emergency preparedness planning to enhance defense deployment operations. First priority will be on the STRAHNET and STRAHNET connectors serving the 17 power projection platforms.

**Other Federal Programs with Common Outcomes:** The FHWA and the MTMCTEA conduct quarterly meetings to discuss the progress made in the implementation of the MTMCTEA Coordination Action Plan.

## Activities and Initiatives in FY 2000:

### ONGOING ACTIVITIES

The FHWA, in partnership with the MTMCTEA, implemented a multi-year work plan to develop systems to track condition of STRAHNET and STRAHNET connectors, improve condition of deficient roads and bridges, and improve defense mobility operations and ensure the proper execution of the Defense Access Road Program. The following major initiatives to improve efficiency and effectiveness are expected to help achieve our targets for this performance goal:

### NEW ACTIVITIES AND INITIATIVES

- Develop process to improve accuracy of STRAHNET data with GIS linkages.
- Develop guidance to assist States to identify and improve deficient roads and bridges on STRAHNET and STRAHNET connectors.

## CORPORATE MANAGEMENT

### Strategies

#### **Continually improve FHWA management strategies for customer service and quality product delivery, as guided by the seven Quality Cornerstones.**

FHWA's Corporate Management Strategies (CMS) serve as internal guidance designed to enable us to effectively and efficiently achieve our strategic goals. The CMS are based on the seven universally accepted criteria that comprise the Malcolm Baldrige and Presidential Quality Award criteria. These criteria are the cornerstones of the FHWA Quality Journey.

Aside from being the major guides in our Quality Journey, the FHWA CMS encompass and support the U.S. DOT's corporate management strategies. Four of the six DOT management strategies—Human Resources, Customer Service, Information Technology, and Resource and Business Process—are closely aligned with FHWA management strategies for Human Resource Development and Management, Customer Focus, Information and Analysis, Process Management, and Business Results. The other two DOT management strategies are Research and Technology and

ONE DOT. Where the DOT plan uses Research and Technology as a management strategy, FHWA applies it as a guiding principle and in the strategies for goal achievement.

This section of the Performance Plan includes a FY 2000 Performance Goal for each Cornerstone, as well as the specific action (planned accomplishment) we will undertake during FY 2000 as part of a long term strategy for improvement.

### The Leadership Cornerstone

**Goal:** Strengthen the FHWA Leadership System, through training and other developmental initiatives, for the agency's new organizational structure.

FHWA leaders are responsible for leading the FHWA Quality Journey and for carrying out its Corporate Management Strategies. Leaders set the vision and direction, ensure accountability, and provide the resources to deliver the products and services to our customers in an excellent and timely manner.

#### Initiatives:

- Expand the use of 360 degree feedback mechanisms to improve agency leadership.
- Update Self-Assessment and implement.
- Develop Self-Assessment Summary Reporting System.

### The Strategic Planning Cornerstone

**Goal:** Translate strategies into unit, division, team and individual action plans with performance measures based on the strategic objectives and performance goals.

Strategic Planning is essential to the long term viability of the Agency. FHWA Leadership uses the Strategic Plan to set the direction for the Agency, to prepare annual performance plans, and to allocate resources for attaining our strategic goals. The Plan is deployed throughout the Agency to the unit, division, team and individual level.

#### Initiatives:

- Provide Performance Measurement Training.
- Strengthen deployment of the FHWA Strategic Plan through refinement of the Performance Management Information System.
- Strengthen Program Evaluations.
- Support the Department's scenario-based strategic planning effort.
- Support the Department's update of the DOT Strategic Plan and align individual OA/office goals to the DOT strategic goals.

### The Customer/Partner Focus Cornerstone

**Goal:** Identify customer and partner needs and measure their level of satisfaction.

FHWA achieves success through extensive cooperation and partnering with State and local transportation agencies. We receive and act upon feedback from customer surveys, listening sessions, focus groups and other learning techniques. We use that information to improve products and services to ensure customer and partner needs are met.

#### Initiatives:

- Establish partnering sessions with major National, State and local partner organizations.

### The Information and Analysis Cornerstone

**Goal:** Identify and develop key business information systems that meet and track DOT and FHWA strategic goals.

FHWA needs information to support key processes and improve performance. Leaders create an environment in which knowledge, as a key asset of the organization, is managed, shared and used effectively.

**Initiatives:**

- The FHWA will complete our Y2K program and will continue Y2K outreach to assist our transportation partners in ensuring that the traffic management systems they own and operate are Y2K compliant on schedule.
- Develop and implement Knowledge Management and Sharing strategies.
- Improve key business information system to provide the timely, reliable and accessible information needed.

### **The Human Resource Development and Management Cornerstone**

**Goal:** Increase employee technical competence, authority and the tools needed to meet agency and customer needs.

FHWA's successful performance depends on a work force with skills aligned with the Agency's objectives. We continue to develop and utilize the full potential of our human resources and to create an environment conducive to performance excellence and personal and organizational growth.

**Initiatives:**

- Develop and begin implementation of action plan based on findings from FY 99 Employee Survey.
- FHWA will pilot workforce planning during FY00 according to OST guidance.

### **The Process Management Cornerstone**

**Goal:** Design, manage and improve key processes to achieve better performance.

FHWA uses customer-focused support, service and delivery processes to continually improve performance and enhance our products and services. We utilize employee appropriate feedback mechanisms and assessments from customers and partners.

**Initiatives:**

- Provide toolbox and technical assistance to identify and improve key FHWA processes.
- Provide Continuous Process Improvement Training
- FHWA will support and use electronic commerce as defined in the DOT EC Strategic Plan.
- Establish process level performance measures for key processes at Division, Resource Center and Headquarters units.

### **The Business Results Cornerstone**

**Goal:** Develop critical FHWA business metrics to measure the overall quality of processes and services and report results

We will use customer feedback and benchmark high-performance organizations to continuously improve our overall performance for our customers.

**Initiatives:**

- Share results measurements throughout Agency.
- Implement task force recommendations on critical business metrics for top management to measure overall agency results.

<sup>1</sup> EPA rates EISs according to the acceptability of the environmental impacts and the adequacy of the EIS document. Acceptability is denoted by a letter rating of LO (Lack of Objection), EC (Environmental Concern), EO (Environmental Objections), and EU (Environmentally Unacceptable).<sup>(2)</sup> Increase the percentage of Environmental Impact Statements (EIS's) with the Environmental Protection Agency's (EPA) highest rating (Lack of Objection<sup>1</sup> (LO)) from the 1988–1998 average of 22 percent to 35 percent in 2000.

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