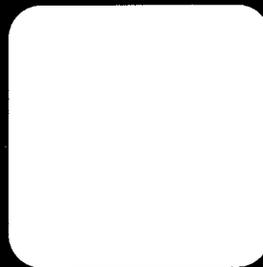
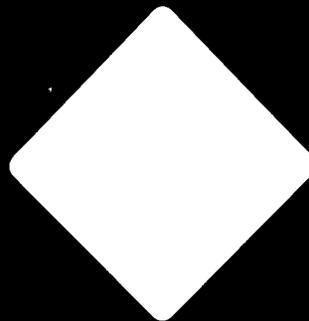
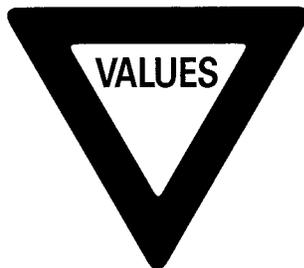


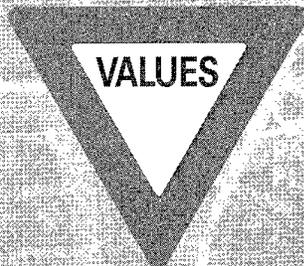
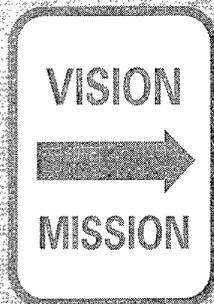
1998 FHWA National Strategic Plan



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Department of Transportation
Federal Highway Administration

1998 FHWA National Strategic Plan



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Administrator's Message



I am happy to present to you the FHWA 1998 Strategic Plan. It is the result of over two years of work by agency management in consultation with our customers and partners, and fully supports the Department of Transportation Strategic Plan.

The 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. The FHWA's vision is to "create the best transportation system in the world" and FHWA's role in achieving this vision is reflected in its Mission Statement: We "continually improve the quality of our Nation's highway system and its intermodal connections." Neither our vision or mission can be achieved by FHWA working alone. It will require the combined efforts of our partners in State and local

governments, who are the primary agents for the implementation of the Federal-aid highway program, as well as others throughout government and the private sector.

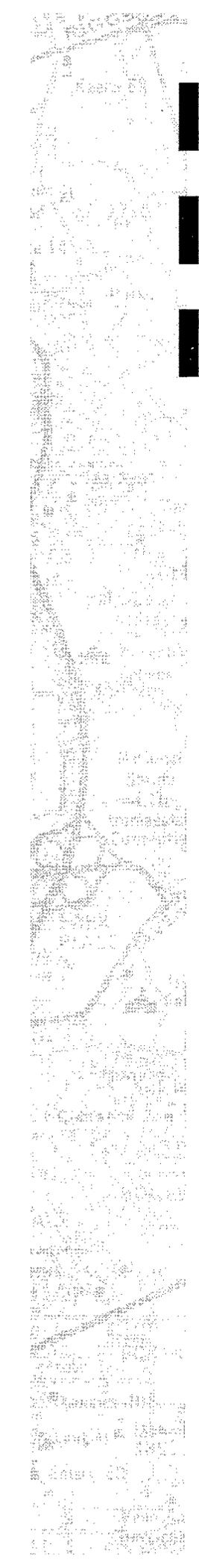
We believe that the Strategic Goals for Mobility, Safety, Productivity, the Human and Natural Environment, and National Security included in the Plan, and the specific 10-year objectives for these goals, provide a national framework for the highway component of the national transportation system that will guide FHWA decisions on a day-to-day basis, and will help our partners to frame their own agendas within a context that contributes to achieving these broad national goals.

Our "Guiding Principles" for achieving these goals are: champion FHWA initiatives, plans and programs; assure customer satisfaction; build and strengthen partnerships; leverage technology and innovation; and improve efficiency and effectiveness through quality. In addition to Strategic Goals and Objectives, the Plan also includes a section on Corporate Management Strategies that identifies the quality cornerstones that are part of FHWA's "Quality Journey." This journey strives for continuous improvement in our performance and in our products - the things we *do* directly control.

Developing and maintaining the Nation's highway system has always been a cooperative enterprise. I believe that this Strategic Plan will contribute to improving the efficiency and effectiveness of our combined efforts by clearly articulating where we want to go as a Nation and providing a framework for measuring our success in getting there. I am looking forward to working with all of you to achieve our Vision for the future of highway transportation in America.

A handwritten signature in black ink, reading "Kenneth R. Wykle". The signature is written in a cursive, flowing style.

Kenneth R. Wykle
FHWA Administrator



Introduction

Through its strategic planning process, the Federal Highway Administration (FHWA) is establishing the priorities and direction for its contributions to the Nation's highways and national transportation system. The Strategic Plan sets out long-term programmatic, policy, and management goals and planned accomplishments. The Strategic Plan also provides an opportunity to bring together government, industry, academia, and other stakeholders to work toward a shared vision.

A strategic approach to managing its program and resources is not new to the FHWA—the FHWA's current strategic planning process builds on ongoing initiatives in quality, customer feedback, and program evaluation. The FHWA "Quality Journey," our internal management initiative to continuously improve the effectiveness and efficiency of our programs, provides the overarching principles and framework for the FHWA to create and support continuous quality improvements throughout the organization and its programs. The strategic planning process is one of the key enablers of our quality initiative.

The FHWA Strategic Plan is the Agency's approach to align efforts, resources, and measure progress toward specific objectives over the next 10 years. The FHWA role in accomplishing these goals is one element in the total Department of Transportation (DOT) program. Our partners, customers, and stakeholders in the highway and transportation community each play a vital role in the success of our program. This Plan supports the individual goals of our partners and customers within the national framework. By setting targets to measure progress toward those goals and objectives, the FHWA will

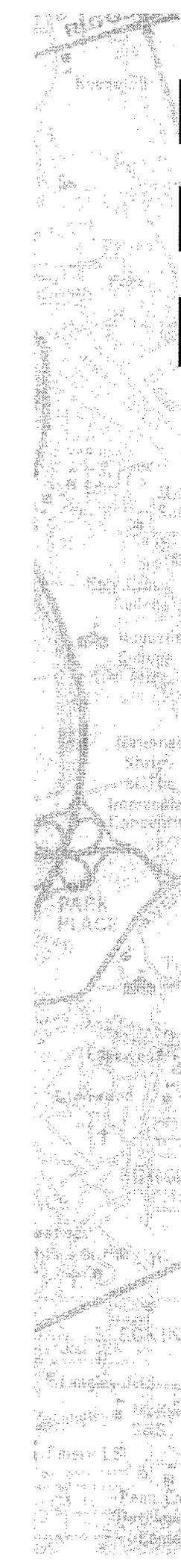
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monitor, evaluate and change programs to improve their effectiveness. The measures proposed in this Plan will evolve and change as we learn the best ways to measure the results of planned initiatives. It is also important to note that the measures in the Plan apply to the national transportation system. It is not intended or appropriate to use these national-level measures to review or compare individual States or transportation partners.

Within the DOT, there are several levels of strategic planning which create a hierarchy of goals. Each level of the hierarchy (departmental, agency, and program level) adds more specificity. The *U.S. Department of Transportation Strategic Plan 1997-2002*, published September 30, 1997, lays out the broad goals for the national transportation system. The FHWA Strategic Plan sets the goals and strategies for FHWA's role within the Department.

Gathering input from our customers and partners has been an essential element to the FHWA strategic planning process. In addition to the extensive outreach in preparation for Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) reauthorization legislation, we gathered input from our customers and partners through a notice in the *Federal Register* and on the Internet. We also held a series of focus groups on what objectives and indicators were most important for FHWA to use to measure its progress. FHWA is committed to excellence in service to its customers and partners and will use its programs, as well as the implementation and monitoring of the Strategic Plan, to continue this important dialogue in the highway community.



Vision:

Create the best transportation system in the world.

The FHWA, in partnership with the total highway and transportation community, is preparing for the future. Our vision is to create the safest and most efficient and effective highway and 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 transportation services are restored immediately after disasters and emergencies.

Mission:

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

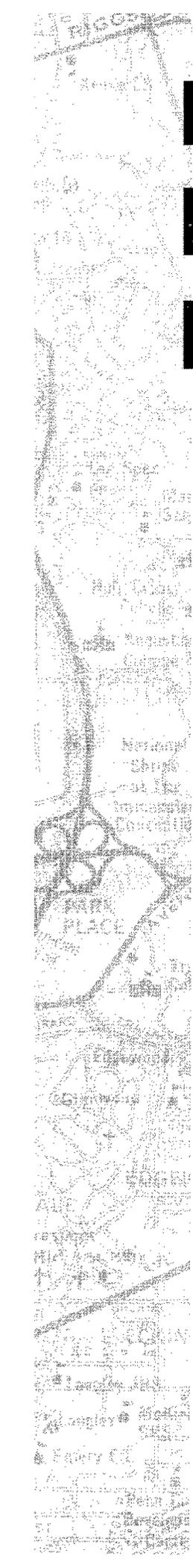
We carry out this mission by providing leadership, expertise, resources and information in cooperation with our partners to enhance the country's economic vitality, the quality of life, and the environment. The FHWA directly administers a number of highway transportation activities including standards development, research and technology, training, technical assistance, highway access to federally owned lands and Indian lands, and commercial vehicle safety enforcement.

Further, FHWA has a significant role, working through partnerships, programs, policies, and allocating resources which facilitate the strategic development and maintenance of State and local transportation systems as effective and efficient elements of the national intermodal transportation system. We perform our mission through three main programs:

The Federal-aid Highway Program provides Federal financial and technical assistance to the States to plan, construct, and improve the National Highway System, urban and rural roads, and bridges. The program fosters the development of a safe, efficient, and effective highway and intermodal system nationwide.

The Motor Carrier Safety Program promotes safe commercial motor vehicle operations to reduce crashes. The program develops, communicates, and enforces performance-based regulations for motor carriers, drivers, and vehicles to protect the traveling public on our Nation's highways.

The Federal Lands Highway Program provides access to and within National Forests, National Parks, Indian Lands and other public lands by administering the Federal Lands Highway, Emergency Relief and Defense Access Roads Programs, performing transportation planning and conducting engineering studies, preparing plans, letting contracts, supervising construction of facilities, and conducting pavement and bridge inspections and surveys ratings.



Values:

Service, teamwork, professionalism and diversity

The men and women who make up the FHWA's workforce across the country are dedicated to improving the quality of the Nation's highways today and in the future. We pursue excellence in all of our endeavors. Our commitment and expertise are reflected in our core values:

Service: We anticipate and respond to customer and partner needs by providing quality products and service. We conduct business with integrity in an open, candid, and ethical manner and take pride in our work and commitment to quality. Employees have the moral courage to make the tough decisions and do what is right for the Nation.

Teamwork: We leverage our collective talents through teams and partnerships based on mutual trust, fairness, respect, cooperation, and communication. We promote and reward creativity and initiative.

Professionalism: We take pride in our work and are committed to the pursuit of excellence. We are committed to continuous professional and personal development through challenging operational assignments, training, opportunities, and recognition. FHWA employees are competent in their areas of expertise.

Diversity: We consider people our greatest resource, and value and respect our individual differences and unique contributions. We support, care about, and respond to employees and their family needs.

Guiding Principles

Champion FHWA initiatives, plans and programs: The employees of the FHWA will be effective advocates of FHWA's programs to reach our goals. Through our activities, we add value by providing investment, training, and technical assistance to maintain and enhance the safety, physical condition, and operating performance of highways by States, local governments, Federal land management agencies, and tribal governments. We foster innovation and deployment of advanced technologies, research, and programs and will continue to keep abreast of domestic and foreign advancements and to benchmark our practices. FHWA will evaluate the outcomes of programs, analyze and research emerging needs, take advantage of ideas and concepts from abroad, and provide leadership and strategic direction in the transportation community. Further, the FHWA has an overarching commitment to assure that all people in America share the benefits of highway programs, regardless of race, color, religion, national origin, sex, age, physical or mental disability, or income level. Throughout our programs, we will use programmatic initiatives and exercise leadership to achieve equity.

Assure customer satisfaction: FHWA is committed to excellence in service to its customers and partners. Our customers and partners include everyone who is affected by highway transportation, such as the traveling public, business and industry, States and local governments, Metropolitan Planning Organizations, and other organizations and groups. FHWA will be a leader to bring stakeholders together and promote coordinated, integrated transportation services. We will ensure open communications and feedback from the States and local governments, tribal governments, the public, business, community-based organizations, and others to improve customer service and identify new initiatives to meet emerging needs. FHWA will

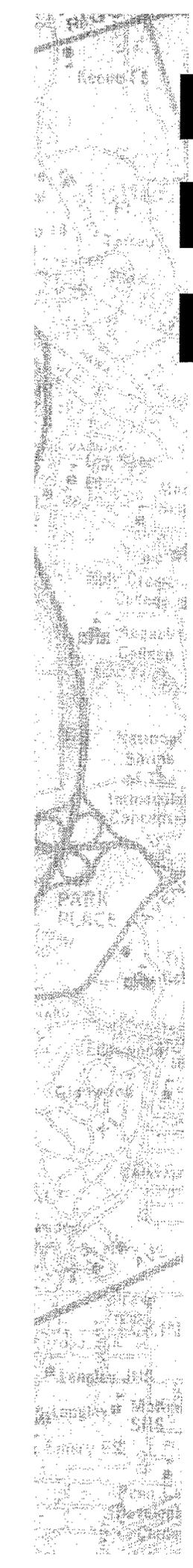
streamline and continuously improve its processes to exceed the expectations of its customers and partners. We will use the implementation and monitoring of the Strategic Plan, as well as our other programs, to continue this important dialogue in the highway community.

Build and strengthen partnerships: The highway system is an integral part of the complex, intermodal, global transportation system. FHWA will be an advocate and convener to promote intermodal, interstate, national and international, public and private sector, as well as local and regional perspectives. FHWA will provide leadership at the Headquarters and the field levels in establishing and strengthening working relationships with all customers and partners. FHWA will work with the States and others in the transportation community to develop a shared vision and goals for a national intermodal transportation system. We will bring together diverse stakeholders to ensure compatibility between transportation goals and other national and local goals. FHWA will help recipients identify and adopt best practices that will lead to improved processes and procedures. FHWA will promote, and assist recipients in implementing, sound management systems and practices. Generally, our accomplishments result from cooperative efforts rather than through compliance. We will seek to improve public and inter-governmental coordination through enhanced cooperative agreements and improved management practices.

Leverage technology and innovation: FHWA will be an international leader in researching, developing, and advancing technology to ensure the most efficient, effective, and environmentally sensitive intermodal transportation system. FHWA will enhance the role of telecommunications in transportation logistics to increase the global competitiveness of the United States. FHWA will promote the use of technolog-

ical advancements and innovations by States and local governments in building highways that cost less, last longer, and are more environmentally friendly. To help its partners implement emerging technologies, FHWA will provide technical assistance, training, and outreach to customers and partners to implement the best technologies for safety, design, construction, maintenance, and operation of highways and for safe operation of commercial vehicles. Technology deployment will be a key factor to accomplish strategic objectives in all goal areas.

Improve efficiency and effectiveness through quality: The FHWA is committed to continuously improving the effectiveness and efficiency of our programs. The *FHWA Quality Journey* is the management philosophy through which we will achieve *excellence through customer focus, employee involvement, and continuous improvement*. This management philosophy is expressed through seven "Quality Cornerstones" that are interrelated quality management principles to focus FHWA's resources and efforts. The Quality Cornerstones are: Leadership, Strategic Planning, Customer and Partner Focus, Information and Analysis, Human Resources, Process Management, and Business Results (metrics). Strategic Planning is one of the Quality Cornerstones, and this Strategic Plan is an integral part of our Quality Journey. The Corporate Management Strategies included in this Plan are based on our Quality Journey and Cornerstones. FHWA will adopt the practices reflected in the Cornerstones to continuously improve the quality of products and services. Quality improvement will be measured by the degree to which the requirements and expectations of FHWA's customers and partners are met or exceeded. The strategies and measures included in this Plan will set high standards to improve and re-engineer our administrative and program processes to better serve customers and partners.

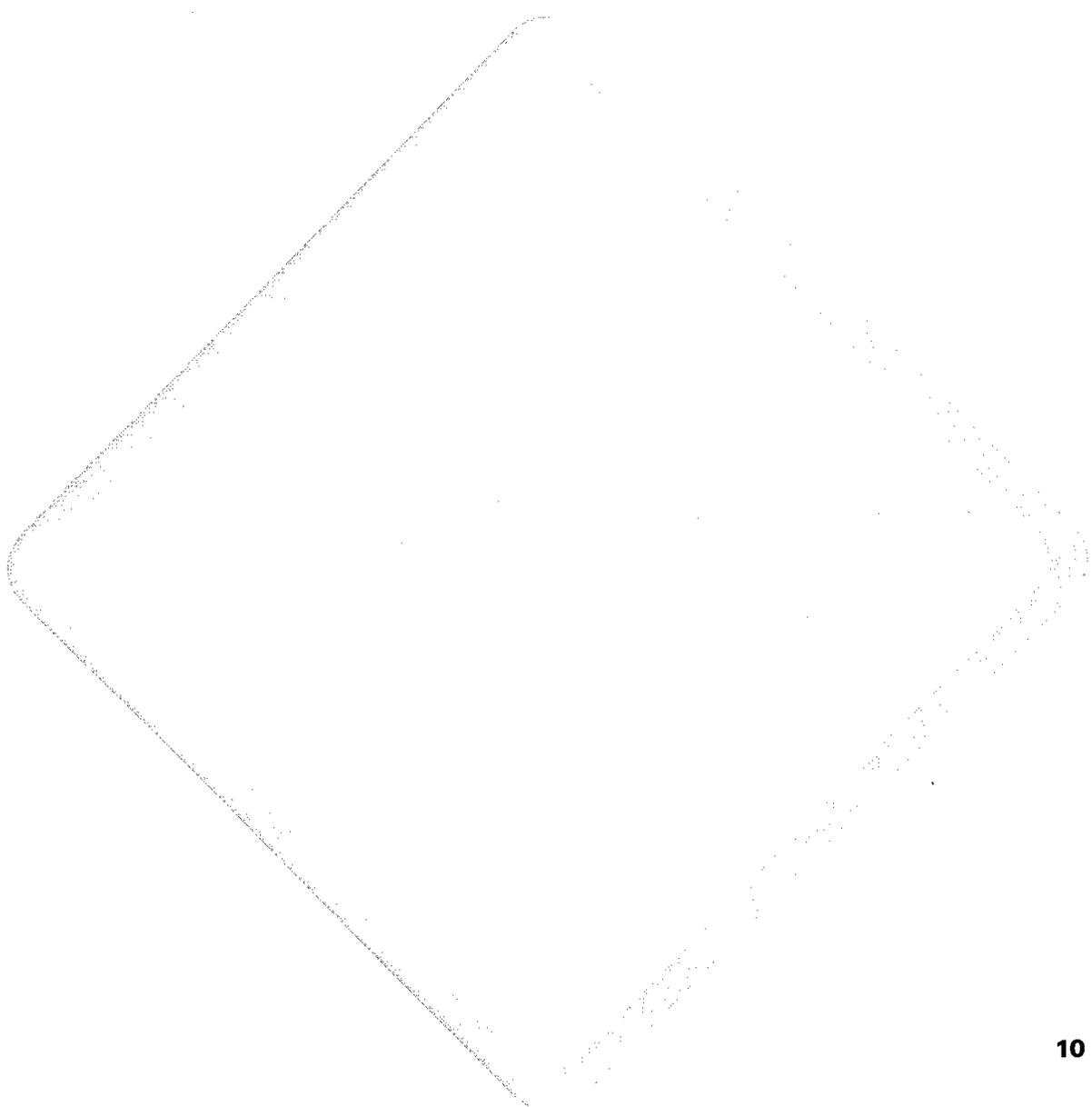


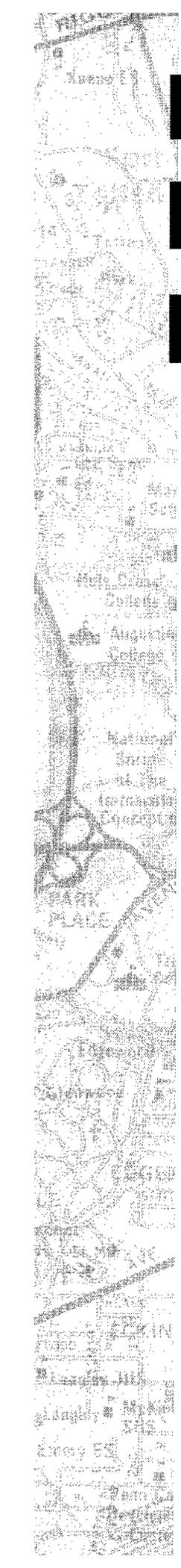
Strategic Goals and Objectives:

The FHWA has developed five strategic goals to support accomplishing our Mission and achieving our Vision. The FHWA strategic goals and objectives are aligned with the Department's Strategic Goals and our progress in achieving them will contribute to achieving the overall transportation goals of the Nation. Many of our goals and objectives are interrelated, e.g., improving the infrastructure and operations of the highway system promotes productivity, safety, and national security as well as mobility. But, in some cases, work on one strategic goal could potentially impact our ability to achieve another goal, e.g., improving mobility could affect our ability to improve the quality of the natural environment. The FHWA is committed to finding solutions that will advance all of our objectives simultaneously.

FHWA recognizes that it cannot achieve these goals and objectives without the active participation and support of its employees and partners throughout government, academia, and 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. FHWA recognizes that data to measure program performance may involve data collection by the States, local governments, and other organizations. FHWA will continue its work with our partners to streamline all data requirements.

FHWA's Strategic Goals and Objectives were developed based on assumptions about both the internal and external environment. One assumption is that the Administration's proposal for the reauthorization of the Intermodal Surface Transportation Efficiency Act (ISTEA), the National Economic Crossroads Transportation Efficiency Act (NEXTEA), or a similar legislative program, is enacted by Congress. Additional assumptions about the operating environment are documented in the environmental assessment which is in the Appendix. Clearly, significant differences from the forecasted trends in personal transport or commercial transport may affect our ability to meet the Strategic Goals and Objectives we have set.





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.

STRATEGIC OBJECTIVES & INDICATORS

1. Preserve and enhance the infrastructure of Federal-aid highways with emphasis on the NHS.

- Increase the percentage of kilometers (miles) on the NHS that meet Owner-Agency managed pavement performance for acceptable ride quality to over 93 percent within 10 years (International Roughness Index less than or equal to 2.68m/km (170 inches/mile)).
- Improve the condition of NHS bridges so that less than 20 percent are classified as deficient in 10 years.
- Improve the condition of all bridges so that less than 25 percent are classified as deficient in 10 years.

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

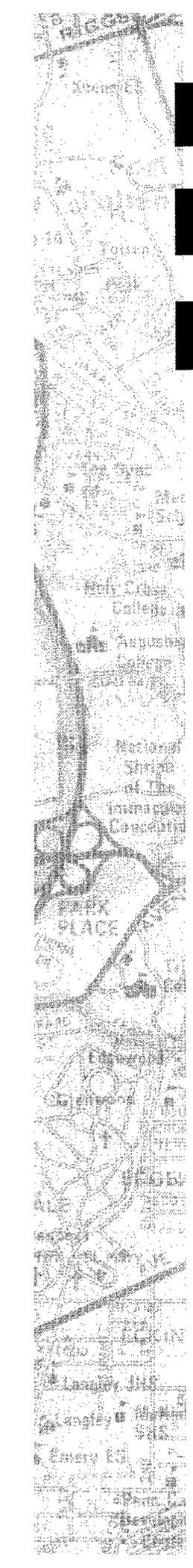
- Increase user satisfaction with the Nation's highway systems to meet their needs (to be collected through surveys).
- Reduce delays on Federal-aid highways by 20 percent in 10 years (hours of delay/1610 vehicle kilometers (1000 vehicle-miles traveled)).
- Improve the efficiency and capacity of existing intermodal connections on the NHS and serve new intermodal facilities on the NHS as appropriate (baseline and measure to be developed).

3. Minimize the time needed to return highways to full service following disasters.

- State and local officials' satisfaction with the FHWA emergency relief measures (to be measured through surveys).
- Increase in the number of Federal, State, and local agencies using accelerated contracting mechanisms to make emergency response repairs (baseline and measure to be developed).

Key Mobility Strategies: Highways are the backbone of the Nation's intermodal transportation system and connect people, goods, and services. FHWA-administered programs and initiatives integrate highways across the country into a comprehensive national system. FHWA's ongoing programs assist the States, Federal land management agencies, and tribal governments in maintaining and enhancing the current highway infrastructure. We also provide resources and technical assistance in the response to major natural disasters in the United States and its territories. By identifying the National Highway System (NHS) and its intermodal connections as a primary area of interest, we will be able to focus resources on initiatives that help achieve mobility and productivity goals. These programs and initiatives, with State and local partnership and implementation, will create the best highway system in the world. With mobility demands continually increasing in the future, the highway community's challenges are great. FHWA strategies will focus on the following:

- **Enhancing the Infrastructure:** FHWA will promote and facilitate innovations in transportation finance and pricing that will help State and local governments build the physical and electronic infrastructure of the transportation system to meet future demands. We will expand our initiatives to create new ways of doing business that increase the efficiency of State and local transportation investments. Innovative programs and pilots, such as State Infrastructure Banks and the



Infrastructure Credit Enhancement Program, will encourage State and local agencies to leverage their limited resources with increased non-federal and private investments.

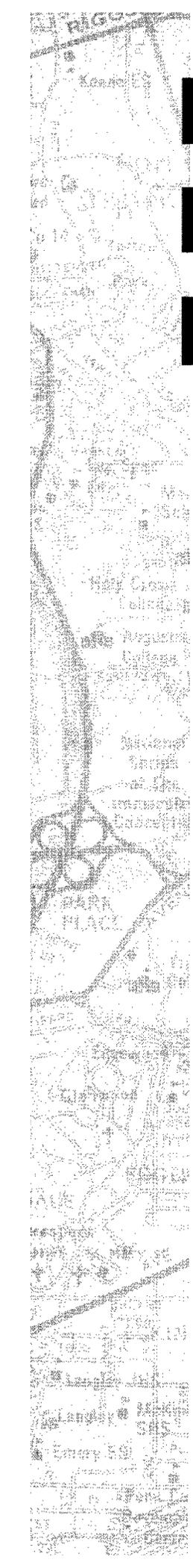
In addition to seeking new and innovative funding sources, the FHWA will focus research and technology innovations on ways to make transportation investments buy more and last longer. In order to meet our objectives for pavement and bridge improvements, we will leverage research to foster major advances in the technology of road and bridge construction, repair, and maintenance. FHWA technology deployment initiatives will ensure that current advancements, such as Superpave and high performance materials (composites), are adopted to improve the performance of highways and bridges. The pavement and bridge indicators support the use of asset management concepts by our partners. FHWA initiatives to promote improved pavement and bridge management systems will enhance the ability of States, local agencies, and Federal land agencies to assess, maintain, and improve the condition of pavements and bridges.

- **Advancing 21st Century Technology:** Through extensive public and private partnerships, domestically, and internationally, FHWA will strive to ensure integration and deployment of ITS technologies to dramatically increase the capacity of the current highway system for passenger cars and commercial vehicles. FHWA initiatives will ensure integration of the communications and technical architecture, standards, technical assistance, and guidance. This will help public and private ITS applications meet the growing demands for physical and information access. FHWA will work closely with State and local agencies to advance ITS applications for metropolitan residents, commercial carriers, and rural residents. Over the next 10 years, Intelligent Transportation Infrastructure, including advanced traffic management, traveler information services, public transportation systems, the Commercial Vehicle Information

System and Network (CVISN), and the Rural Initiative will be deployed across the country.

- **Improving System Operations:** Improving the operation of the highway system and its intermodal linkages support the mobility, productivity and safety goals. FHWA initiatives to identify and share effective management systems and practices that address congestion, safety, incident management, work zone traffic control, and other operational issues will result in improved highway operations. FHWA will promote partnerships among Federal, State and local agencies, and other stakeholders to identify and implement improvements to the NHS and connections to intermodal facilities that will enhance the safe and efficient movement of people and goods.

- **Ensuring Emergency Relief:** In a natural disaster, the initial emergency response is provided over the highway and the community may not fully recover from the disaster until the highways are back in full service. We work with our Federal, State, and local partners to ensure that highways can provide vital links for emergency relief during natural disasters and to ensure that full highway access is quickly restored to the disaster area. FHWA will participate in practice exercises, as well as reviews of actual disaster response lessons learned, to help develop and improve techniques, communications, technologies, and streamlining procedures for Federal resources. With our partner agencies, FHWA will develop and share best practices that can be immediately deployed during a disaster. FHWA will also continue to use accelerated contracting mechanisms, communications, and technologies to help provide access to sites immediately following disasters and quickly restore damaged highways to full service.



Safety:

Continually improve highway safety.

STRATEGIC OBJECTIVES AND INDICATORS:

1. Reduce the number of highway-related fatalities and injuries.

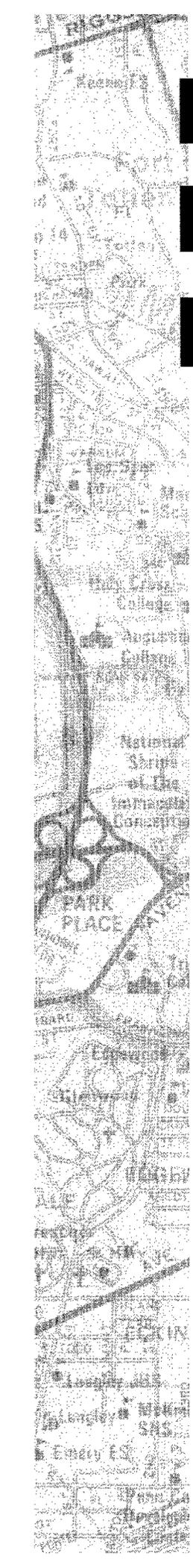
- 20 percent reduction in the number of highway-related fatalities in 10 years.
- 20 percent reduction in the number of highway-related serious injuries in 10 years.

Key Safety Strategies: Safety on the highways is our highest priority—more than 40,000 Americans die, and 3 million are injured, in motor vehicle crashes on our highways each year. More than 5,000 of the fatal crashes each year involve commercial motor vehicles. Crashes involving pedestrians and bicyclists result in 5,000 fatalities annually. As more people travel farther on the highways each year, without significant improvements in highway safety, the number of fatalities and injuries could also increase. In meeting this highway safety goal, the rate of fatalities would change from 1.1 to 0.7 fatalities per 100 million vehicle kilometers traveled (1.7 to 1.1 fatalities per 100 million vehicle-miles traveled). This would be a 35 percent decrease in the fatality rate. Ensuring that it is safe to travel on the highways is a guiding principle throughout all of our programs and activities. FHWA promotes safety through technical assistance, research, training, data analysis, and public information as well as through compliance, education, and enforcement of national motor carrier safety requirements. Further, FHWA provides resources for infrastructure and system improvements, such as those to highway-rail grade crossings, to enhance safety. Improving highway safety also reduces the economic costs of transportation incidents. To meet its goals of continually

improving highway safety, even as travel increases, FHWA's key strategies in highway safety include the following:

- **Promoting Safety Management Processes:** In partnership with the highway community, FHWA will facilitate implementation of comprehensive safety management processes with Federal, State, and local government and the commercial transportation industry. Safety management processes will bring together, in a coordinated approach, the stakeholders that affect highway safety, including highway design, operation and enforcement agencies, the motor carrier industry, safety advocacy groups, and others. FHWA will work with our partners and stakeholders to develop information and analysis systems to better identify the causes of crashes and develop crash avoidance programs to reduce or eliminate crashes. FHWA will identify and share best practices in design and operation of safe roadways that can reduce the risks and severity of crashes. FHWA will work with its partners to implement programs such as Safe Communities that will increase involvement of communities and citizens in identifying and implementing safety practices. Through the above initiatives, FHWA will ensure that government agencies, the public, communities, and businesses are aware of safety countermeasures and best practices and are able to apply them throughout every level of highway system design, construction, operation, and use.

- **Deploying Lifesaving Technologies on the Highways:** 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 bicycle incidents. Advancement of ITS 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. FHWA's longer-term safety strategy is a technology-based, systematic approach to enhance the safety of the roadway, vehicles, and users. We will facilitate the



research, development, and application of technology to dramatically change operations and integrate these new technologies to create a fail-safe highway environment. The initial steps toward this include the testing of the automated highway system, automated traffic management systems, pedestrian signal communications systems, intelligent vehicles and vehicle systems, and commercial vehicle and passenger car technologies that monitor the fatigue and safety performance of individual drivers.

- **Focusing on Commercial Vehicle and Driver Safety:** In the past, the motor carrier program was primarily built on regulations and enforcement. Today, it is a safety program which identifies and implements innovative and performance-based programs. FHWA will: promote safe driving practices in the vicinity of large trucks; build partnerships to improve motor carrier safety and performance of commercial motor vehicles and drivers; target enforcement on the highest-risk motor carriers, and identify and deploy new technologies to enhance the safety performance and productivity of the motor carrier industry.

- **Focusing on Human Behavior:** In the Headquarters and field, the FHWA will add its resources to work on educational and enforcement activities designed to change human behavior while using the roadway environment. The FHWA will join all the modal administrations in such activities that increase the use of seat belts, reduce the number of red light running crashes, and reduce the number of alcohol-related crashes. It is estimated that increasing the use of seat belts and decreasing drunk driving have the highest potential for reducing fatalities on the Nation's highways. These activities will be accomplished with departmental leadership from the National Highway Traffic Safety Administration.

Productivity:

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

STRATEGIC OBJECTIVES AND INDICATORS:

1. Improve the economic efficiency of highway transportation.

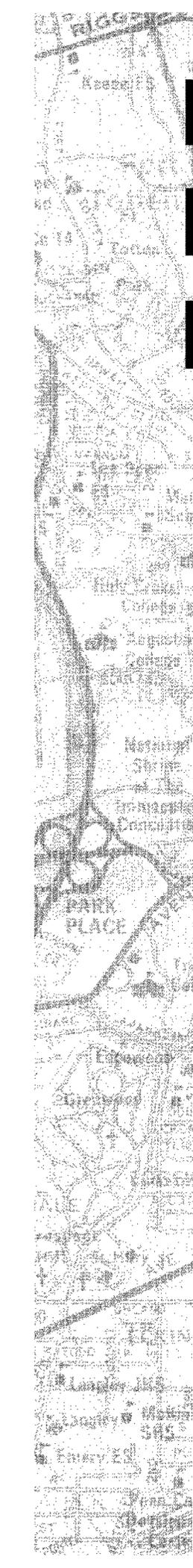
- Reduce delays on Federal-aid highways by 20 percent in 10 years (hours of delay/1610 vehicle kilometers (1000 vehicle-miles traveled)).
- Reduce highway-related delays on NHS border crossings by 30 percent in 10 years (baseline and index to be developed).

2. Improve the return on investment of the highway system.

- Reduce the life cycle costs per lane kilometer (lane mile) of new and reconstructed highways by 25 percent in 10 years (indicators to be developed).

Note: See Objective 2 under the Mobility Goal - "Improve the operation of the highway system and intermodal linkages to increase transportation access for all people and commodities."

Key Productivity Strategies: Minimizing the cost to build, maintain, operate, and use the National Highway System directly supports local, regional, and national economic growth and competitiveness. The Highway System provides the majority of passenger travel; 91 percent of the person-distance (miles) traveled is in privately-owned vehicles. Trucks move nearly three quarters of the value, one half of the weight, and nearly one quarter of the metric ton-kilometers (ton-miles) of all freight shipments in the United States and its territories. FHWA programs to increase mobility through enhanced infrastructure, technology, and operations also support economic performance goals. In addition, we will help reduce the



economic costs of providing and using the highways by focusing on the following strategies:

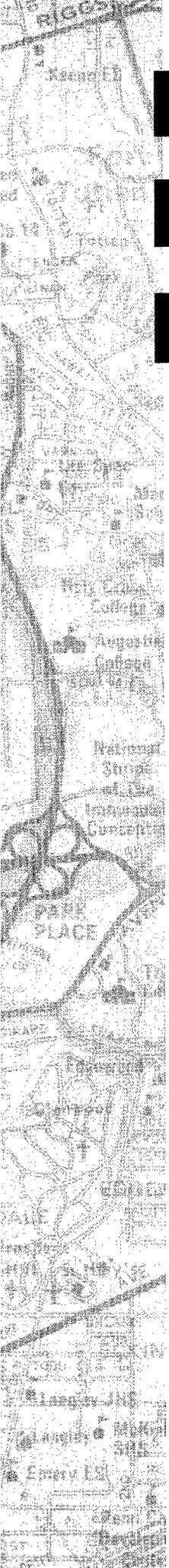
- **Highway System Operating Efficiency:** FHWA initiatives in incident and congestion management systems will assist the States in stabilizing highway congestion and reducing delays caused by crashes, breakdowns, and construction. Within 10 years, the broad deployment of CVISN, an automated and integrated commercial vehicle service system, will increase operating efficiency and streamline government requirements for commercial vehicles while ensuring their data privacy. We will promote innovative congestion pricing strategies for highway users that also support congestion management, air quality, and energy conservation initiatives. Further, FHWA will facilitate advancements in technology to develop new cost recovery opportunities, such as automatic toll collection.

- **Border Crossing Efficiency:** FHWA will work with international, Federal, and State agencies and others to remove institutional, technological, and physical transportation barriers to foreign trade at our border crossings. With our partners, FHWA will provide resources and technical assistance for States and local governments to speed the movement of vehicles through border gateways.

- **Highway System Production Efficiency:** FHWA will promote increasing the return on investment of highway dollars through research and technology transfer to significantly reduce the life cycle costs of new and reconstructed highways. We will promote sound investment decision making through States' and Federal lands agencies' utilization of asset management strategies. Further, to be truly efficient in the production of our Nation's highway system, we must do more than build high quality, long lasting structures. Maximum efficiency will only be realized when all elements of the Nation's resources are able to contribute to that end.

FHWA will continue to promote open and full access to employment in the design and construction of the system and to companies and educational institutions wishing to participate in highway-related research. FHWA will identify where underutilization is occurring and what barriers to full participation exist. FHWA training and professional capacity-building initiatives, such as the Garrett A. Morgan Program and ITS core competencies, will help assure that highway agencies are staffed with skilled personnel capable of identifying and implementing best practices in all program areas. Where warranted, FHWA will foster international trade in U.S. highway products and will promote and implement technical assistance and partnerships to achieve full utilization of all of the Nation's production resources.

- **Federal-aid Efficiency:** To maximize the rate of return resulting from Federal transportation investment, it is essential that the costs associated with delivering and accepting Federal aid be minimized. FHWA will continue its efforts at regulatory reform and will develop streamlined methods and mechanisms for delivering Federal assistance while maintaining all necessary safeguards of Federal law.



Human and Natural Environment:

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

STRATEGIC OBJECTIVES & INDICATORS:

1. Enhance community and social benefits of highway transportation.

- Increase public satisfaction with highway systems and highway projects as a beneficial part of their community (to be measured through surveys).

2. Improve the quality of the natural environment by reducing highway-related pollution and by protecting and enhancing ecosystems.

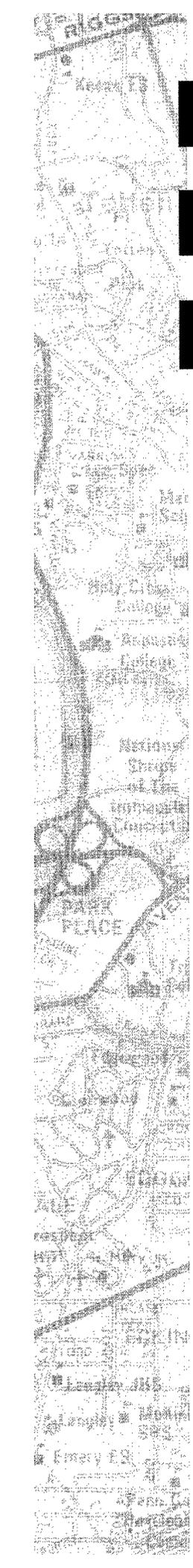
- Reduce on-road mobile source emissions by 20 percent in 10 years.
- Increase net wetland hectare area (acreage) resulting from Federal-aid highway projects by 50 percent in 10 years.

KEY HUMAN AND NATURAL ENVIRONMENT STRATEGIES: Highways and transportation facilities are major contributors to the quality of life in communities and can be a major factor affecting the quality of the natural environment, especially air quality. Through initiatives in planning, environment, analytical models, new technologies, and research, we will work with our partners to ensure that highway facilities balance local, regional, and national concerns with the natural environment and add value to the community. The major focus of FHWA's initiatives will be the following:

- **Enhancing Communities Through Highway Transportation:** FHWA will foster community and regional level transportation solutions through enhancements in urban and rural community planning. We will develop and share tools for State, local, and 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. FHWA will help ensure transportation plans address the community concerns and social impacts of transportation facilities and recognize the role of transportation in supporting Welfare-to-Work, mobility for people with low incomes, and accessibility for people with disabilities. FHWA will promote programs and initiatives to enhance communities through effective public involvement, a thorough assessment of impacts, and creative approaches to mitigation and enhancement. 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.

- **Sustaining the Quality of the Natural Environment:** Through research, new technologies, and analytical models, FHWA will promote the construction, maintenance, and use of highways 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 promote initiatives to protect and enhance ecosystems on a programmatic basis, including the use of inventories, partnerships with resource agencies, and practices such as wetland banking. FHWA will provide resources, flexibility, and technical assistance for States and local agencies to ensure compliance with environmental standards, especially reducing transportation-related air emissions. FHWA will promote streamlined environmental processes, requirements and procedures to accelerate and improve decision making to meet the goals of transportation, the community, and the natural environment. While FHWA is focusing its strategic indicators on air quality and wetlands, progress in these high priority areas is indicative of general progress in achieving our overall environmental goals.



National Security:

Improve the Nation's national defense mobility.

STRATEGIC OBJECTIVES & INDICATORS:

1. Improve the capacity and operation of the highway system to support mobilization

- Increase the level of satisfaction of Department of Defense (DOD) partners with highway transportation services to support mobilization initiatives.

KEY NATIONAL SECURITY STRATEGIES: Highways are critical links for mobilizing and deploying military forces from U.S. bases. FHWA facilitates effective coordination among Federal, State, and local agencies to ensure that the highway infrastructure, communications, and technology fully support national defense strategies. We will continually improve our National security initiatives through the following:

- **Enhancing Mobilization Planning:** FHWA will facilitate coordination with the DOD and State and local highway agencies to support priority defense mobilization and deployment plans through infrastructure, communications, and highway operations information systems.
- **Improving the operation of key highway and bridges of interest for national military mobilization:** FHWA will work with the Military Traffic Management Command (MTMC) to improve routes on the Strategic Highway Corridor Network (STRAHNET) and STRAHNET connectors. We will place special emphasis on those highways, connectors and bridges that support key installations and the air and seaports of embarkation identified by MTMC.

Corporate Management Strategies:

The FHWA Corporate Management Strategies (CMS) are embodied in the Quality Journey which we have chosen as our management philosophy. This journey strives for continuous improvement in our performance and in our products by focusing on the seven universally accepted principles, or "Cornerstones," that comprise the Presidential Quality Award criteria. As an organization in the pursuit of excellence, our CMS and the Guiding Principles described elsewhere in this Plan complement each other. Applied together, they constitute an Agency road map for achieving organizational excellence and being recognized as a high-performing organization.

The FHWA CMS encompass and support the U.S. DOT's corporate management strategies¹. 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.

Meeting the ONE DOT strategy deserves special mention. FHWA will support this strategy by working with the other modes to create the best intermodal transportation system in the world. To effectively serve U.S. DOT customers, all modes need to work better together and to partner with providers. FHWA will continuously improve our understanding of and communication, coordination, cooperation and collocation with other U.S. DOT modes and their business partners. We will actively support

¹ *United States Department of Transportation Strategic Plan, 1997-2002*, September 30, 1997 pp. 57-71



and participate in the steps identified in the DOT Plan which are designed to achieve ONE DOT.

The FHWA Corporate Management Strategies, based on the seven Quality Cornerstones, are as follows:

Leadership: FHWA leaders will be personally involved in creating and sustaining core values, organizational direction, performance expectations, customer focus, performance monitoring, and performance excellence. Leaders will work toward integrating values and expectations into FHWA's leadership system, including how FHWA continuously learns, improves, and addresses its responsibilities to the public, our partners, our stakeholders, and our customers. FHWA leaders set the vision and direction, ensure accountability, and provide the resources to ensure that we, FHWA, deliver the products and services to our customers, both internal and external, in an excellent and timely manner. We will use scores from assessments using the President's Quality Award criteria as an indicator of progress of our management strategy.

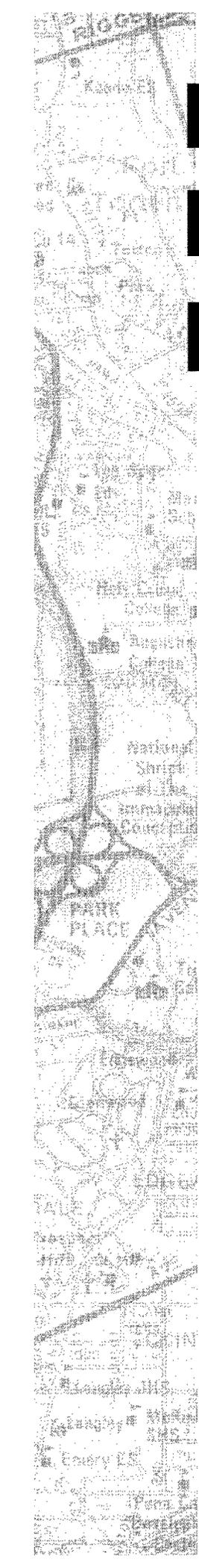
Strategic Planning: Strategic planning is essential to accomplish our mission and work toward achieving our vision. FHWA will use our Strategic Plan to set the direction for the Agency, for preparation of annual performance plans and to allocate resources toward attaining our strategic goals. We will establish metrics to measure and assess how well we are delivering products and services to our customers. We will use our annual performance plans as the basis for our organizational performance management system. We will continuously monitor progress, business trends, and the outside environment to adjust our strategic plan.

Human Resource Development and Management: FHWA's successful performance depends on empowered employees who work in a positive, supportive organizational environment. We seek a workplace

conducive to achieving excellence. We seek an environment where all employees participate, learn and grow. The FHWA will continue to develop and maintain a work force renowned for its professional leadership and technical competence with the widest spectrum of skills and experiences. We will continue to develop a work force with diverse skills and experiences. We will create a work environment that nurtures the personal and professional goals of all of our employees. We will recruit and develop employees for careers with the FHWA family supported by innovative human resource programs and opportunities for individuals to lead the Agency into the 21st century.

Customer and Partner Focus: FHWA will achieve success through extensive cooperation and partnering with State and local transportation agencies, Metropolitan Planning Organizations, the transportation industry, the transportation research community, resource agencies, law enforcement and emergency response agencies, educational institutions, public interest groups and others committed to quality transportation. To increase our customer and partner satisfaction, we will establish processes and procedures to determine customers' requirements and expectations, actively seek and use customer input, adjust to a changing environment, and provide excellent customer service. We will receive and act upon feedback from customer surveys, listening sessions, focus groups, and other learning techniques. We will use the FHWA Quality Journey as the forum for a continuing dialogue between FHWA employees and their internal and external customers to enhance our efficiency and effectiveness.

Information and Analysis: FHWA's leaders, managers, and employees need information to effectively lead and manage the Agency, assess its performance, and implement changes to achieve excellence. To remain a knowledge-based organization, FHWA will provide employees with the capability to effectively



acquire, process, store, and retrieve information and to communicate, share, and process information with each other and with our customers and partners. We will improve or re-engineer current information systems, as necessary, to keep pace with the state of the practice. We will design new and revised systems, including expert systems and other knowledge-based automated systems, to support streamlined business processes.

Process Management: FHWA will manage its organizational processes using state-of-the-practice business techniques. FHWA will use customer-focused support, service and delivery processes to improve performance and enhance our products and services. We will establish effective and efficient measures for key business processes. We will employ appropriate feedback mechanisms and assessments from customers and partners. We will design, manage, improve, and re-engineer key processes to achieve excellence.

Business Results (Metrics): The entire Quality Journey process drives providing timely and useful transportation products, services, and technology for our partners and our customers. The focus of the Quality Journey is outstanding service leading to the best transportation system in the world. FHWA will measure the quality of our processes and services and report performance in key business areas including customer satisfaction, financial and program performance, service delivery, technical guidance and support, human resource performance, supplier and partner performance, and operational performance. We will use customer feedback and benchmark high-performance organizations to continuously improve our overall performance for our customers.

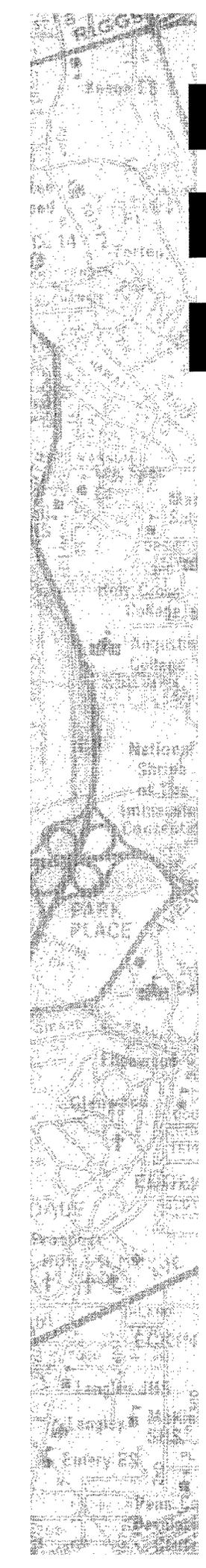
"IN THE PURSUIT OF EXCELLENCE"

Appendix:

Environmental Assessment: FHWA's Strategic Goals and Objectives were developed based on assumptions about both the internal and external environment. If, in the future, there are significant differences from the forecasted trends in personal transport or commercial transport, particularly growth in vehicle-distance traveled, this may affect our ability to meet the Strategic Goals and Objectives we have set.

Our ability to achieve FHWA's Strategic Goals is also significantly affected by non-federal investment in the highway transportation sector and the work of State and local governments and the private sector. Providing a National Highway System (NHS) that meets the needs of the Nation and the roads that connect individuals and freight to that system has always been seen as a partnership among all levels of government in the United States. We have assumed that State and local governments will continue to provide their current level of investment and are committed to investing significant resources to maintain the physical infrastructure under their jurisdiction. We have also assumed that the Federal Government will provide the program structure and level of investment requested in the National Economic Crossroads Transportation Efficiency Act proposal.

We are also assuming that increased use of technology (new paving technologies, use of composites for bridge repair, etc.) and innovative financing techniques (including State Infrastructure Banks, the Infrastructure Credit Enhancements Program plus other innovations) will reduce the cost of providing transportation infrastructure and services and that increased use of network management strategies using ITS technology will increase the capacity of the existing network and make driving safer.

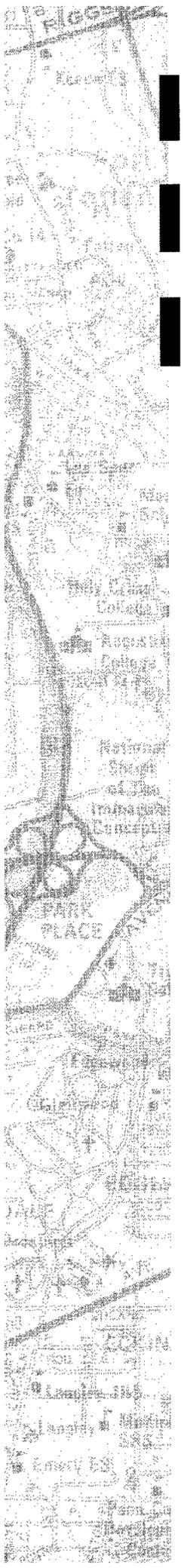


Demographics: As the population increases, travel demands will increase and change. The Bureau of the Census estimates a 21 percent increase in population by 2020 and a 47 percent increase by 2050. The increase in population will increase the number of trips and distance traveled which, without significant advancements in highway and transportation systems, will lead to additional highway fatalities and injuries and more congestion and environmental damage. While simply preserving the condition and performance of the current highway system is a significant commitment for the highway community, our challenge must be to enhance it.

Personal transport: Lifestyle and land-use choices in the United States have resulted in increased highway travel. Highway travel is the predominant mode of travel for individuals; currently, 91 percent of person-distance (miles) traveled is in privately-owned vehicles. Between the 1970 and 1990 census, 91 percent of the total U.S. population growth has been in the suburbs and a large percentage of the new jobs created were also in the suburbs. The Nationwide Personal Transportation Survey (NPTS) shows that from 1969 to 1995 there have been large increases in the number of households (55 percent), workers (74 percent), and drivers (72 percent). At the same time, population increased by only 23 percent. With these increases, there has also been a significant increase in the number of vehicles per household. In 1969, there was about one car per household. In 1995, there were close to two cars per household. The data from the 1995 NPTS indicate that household vehicle ownership is beginning to stabilize. The analysis supporting the FHWA's Condition and Performance Report projects that over the next 10 years the vehicle distance (miles) traveled will increase by 24 percent and by 53 percent in 20 years. More people, more cars, and more miles traveled will add more strain to all aspects of the highway system.

The travel demands of different elements of the population, such as people who are elderly, disabled, or have a low income, will affect highway and transportation needs in the future. Currently, persons 65 and older comprise 13 percent of the population. This is expected to become 16 percent in 2020, and 20 percent in 2050 as the baby boom generation and its children's echo boom generation ages. While people over 65 take somewhat fewer trips per day than others (3.43 trips a day compared to 4.42 a day for non-elderly), about 89 percent of their trips are still by private vehicle. In addition, the Census Bureau reports that approximately 54 million people in America have some level of disability. Accessible vehicular and pedestrian transportation are key factors in enabling people with disabilities to find and accept employment and participate in other daily life activities. Since the number of people with disabilities is likely to increase with the aging population, transportation professionals will need to address diverse requirements for mobility, access, safety, and alternatives to private vehicles.

Travel patterns and needs of people with low incomes must also be specifically addressed within the transportation system. Members of lower-income households average a significantly higher number of walking trips and do not travel as far from their homes for work. Many of these low income households include welfare recipients who, faced with losing public assistance, have an urgent need to reach jobs, child care providers, and training or education resources. A quarter of low income households do not have cars; however, most trips by these households are still by privately-owned vehicles. This difference in travel patterns exacerbates the problems of matching unemployed or underemployed inner city residents with new jobs, often located in the suburbs.



Trends in commercial transport: A significant portion of commercial freight is moved on the highways. Truck freight revenues are more than 75 percent of freight revenues for all modes and trucks transport one half the weight, and nearly 25 percent of the ton-miles, of all freight shipments in the United States and its territories. The number of commercial trucks on America's highways grew by 76 percent between 1982 and 1992, while vehicle distance traveled doubled. To be competitive in the global economy, U.S. producers must maximize the efficiency of production and distribution. For example, just-in-time delivery systems have greatly reduced overhead costs, and freight logistics systems have increased efficiency. As manufacturers rely more extensively on improved logistics to increase economic efficiency, demands on highway capacity and reliability increase. The advent of new information-processing technologies and telecommunications, which allow distant operations to be linked together, will create an industrial system that is increasingly competitive and places a premium on speed and market responsiveness.

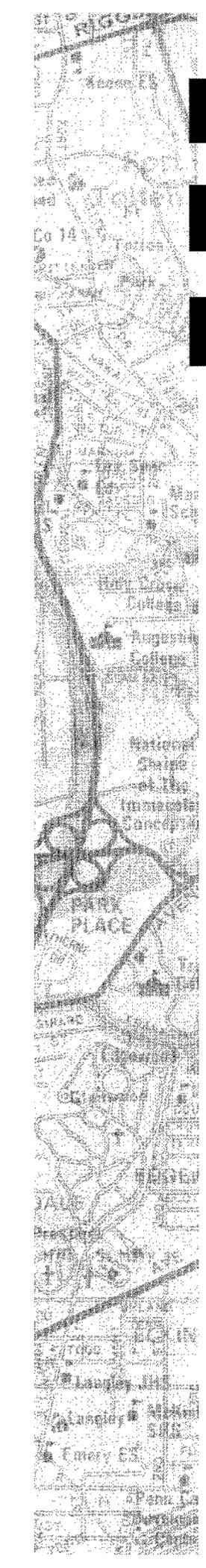
Technology opportunities and challenges: Traditionally, the highway system has focused on physically moving people and freight. Past solutions to increasing demands for capacity and efficiency were to expand the infrastructure, change the vehicles, or streamline the physical operations. However, through tremendous advancements in telecommunications and technology, the highway system and other modes have the opportunity to apply new solutions, creating an integrated, highly efficient global transportation system. This intelligent transportation infrastructure will be a communication and information network that supports transportation's physical infrastructure, provides information systems and enables intermodalism.

Many of the challenges in developing and deploying the telecommunications technologies today are institutional barriers. Highway and transportation agencies and providers have

computer and data systems that were created and operated independently. Now that the ITS projects are demonstrating significant reductions in user and government costs, favorable benefit-cost ratios, reduced highway crashes, and cheaper and more environmentally benign capacity than new construction, stakeholders in the transportation system are working and planning together to tap into integrated data systems. The intelligent transportation infrastructure will create information and communication linkages among transportation users and providers to maximize intermodal management and efficiency.

Outreach to Customers and Partners: FHWA worked with its customers and partners throughout the strategic planning process. The DOT and the FHWA gathered very useful information during the extensive outreach conducted last year in preparation for the reauthorization of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). This outreach included 13 regional forums and over 100 focus groups in approximately 40 States throughout the country. The information from these meetings provided valuable input for the FHWA's development of its vision, mission, and goals.

For the next step in the planning process, FHWA asked its customers and partners to identify strategic objectives and indicators that would best measure progress towards the goals. A Federal Register Notice to collect broad public comment was published in the spring. This Notice was also included on the FHWA home page on the Internet. A total of 14 States, 4 associations, and 7 Federal partners provided written comments. Additionally, more than 85 people representing 45 different organizations participated in a series of small focus groups to develop objectives and indicators. At the conclusion of the focus groups, FHWA convened a small group of key partners representing the State partners, industry, environment, and safety groups to review the information collected and also make recommendations.



The results of this outreach were very beneficial to the development of the Strategic Plan. Similar objectives, indicators, priorities, and strategies emerged from many of the participants and commentors. Generally, customers and partners support strategic planning as a very worthwhile process to ensure government accountability and results. In summary, the common themes from the outreach process included:

- work to improve the operation of the highway system by increasing intermodal linkages for freight and passengers;
- increase access throughout communities for drivers and non-drivers;
- measure improvements in highway operations through customer satisfaction surveys, and reduced user costs, congestion, and travel time on highways;
- increase the capacity of the highway system to improve the productivity of the nation and measure improvement by reduced travel times and freight costs, and more access to jobs;
- ensure that highways are safe by continually reducing crashes;
- focus on the highest safety risks such as run-off-the-road crashes, pedestrians, railroad grade crossing, and commercial vehicles;
- reduce transportation related pollution and protect ecosystems through improved highway operations and planning;
- streamline the environmental process to make it more effective to meet the environmental goals and ensure the efficiency of the programs;
- enhance partnerships, communications, data, and technology to support military mobilization and disaster response; and
- assist small and disadvantaged businesses to participate in economic growth.

Relationship between goals in the annual program performance plans and the FHWA Strategic Plan:

Each of the FHWA's three major programs (the Federal-aid Highway Program, the Motor Carrier Program, and the Federal Lands Highway Program) is preparing a performance plan that included program-specific performance goals and indicators that will contribute to achieving the overall Agency Strategic Goals and Objectives in the FHWA Strategic Plan. Program performance goals will include a mixture of outcome and output goals and indicators that will allow the agency leadership, managers, and workers to assess progress both in producing the outputs within FHWA control and influencing the outcomes that are within the Agency's sphere of influence.

With the exception of the Federal Lands Highway Program, which participated in the Government Performance and Results Act (GPRA) performance planning pilot, the first Program Performance Plans are being prepared for Fiscal Year 1999. These will not be final until the Agency's budget for Fiscal Year 1999 is passed by Congress. Based on our experience with the Federal Lands Pilot, it is also likely that performance goals and indicators may be adjusted in future years as we learn to better define our goals and monitor our performance.

Statutory Authority: The FHWA programs are primarily authorized under Titles 23 and 49 of U.S. Code. Title 23 includes the authority for the Federal Aid, Federal Lands, research and development, international outreach, and National Highway Institute programs. Title 49 (Chapters 5, 51, 59, 311, 313, and 315) addresses the motor carrier safety programs.

Program Evaluations: FHWA will use a variety of ongoing and new program evaluations to monitor its progress under its Strategic Plan. The FHWA plan uses existing data sources such as the International Roughness Index, the National Bridge Inventory, Fatal Accident Reporting System, and the General Estimating System. We will also be conducting customer satisfaction surveys with the general public to determine access and mobility issues as well as community impacts under the Environmental goal. In areas that will require new data such as NHS border crossings, intermodal connectors on the NHS, and life cycle costs, FHWA will work with its State and local government partners to address any new data requirements.

PROGRAM EVALUATION	METHODOLOGY	SCOPE	ESTIMATED COMPLETION DATE
FHWA Cost Allocation:	Combination of Statistical & modeling with fiscal data	Evaluation of highway user charges based on equity and economic efficiency principles	1997 with updates
State Initiatives to reduce Fatal Truck Crashes	Cross-sectional	Study of initiatives in 10 States with the highest number of truck crashes. Evaluation will look at effectiveness of State initiatives and compare to non-participating States	2000
State Infrastructure Banks(SIB) (with FTA, FRA)	Longitudinal & cross-sectional	Evaluation of funding leveraged from SIBs and the impact of the program on strategic outcomes	2003

Methodology Key:

Longitudinal: Study of data points or data series before and after intervention

Cross Sectional: Study of different groups or sites at the same point in time

Statistical: Regression analysis, etc.

Combination: Use of two or more complementary analytic techniques