U.S. Department of Transportation

Performance Report

Fiscal Year 2000

Performance Plan

Fiscal Year 2002

Norman Y. Mineta
Secretary of Transportation

April 2001

U.S.
Department
of Transportation

Dear DOT Colleagues:

I am proud to present the U.S. Department of Transportation's fiscal year 2002 Performance Plan, combined with the Department's fiscal year 2000 Performance Report.

President Bush and I take great pride in the work the Department plans to achieve in fiscal year 2002 with the resources proposed in the President's budget. Our fiscal year 2002 Performance Plan has ambitious goals, all directed to our most important transportation priorities: increasing transportation safety, improving mobility for all Americans, supporting our Nation's economic growth, and protecting the Nation's environment and security.

In 2000, the Department of Transportation met or saw good trends in 71 percent of our performance measures. We should be proud of the progress that has been achieved, but rededicate ourselves, in 2001 and 2002, to finding ways to improve our performance in managing the Department and carrying out our programmatic work.

Those of us who have spent our careers in the field of transportation are no strangers to the concept of continuous improvement. As we all know, no transportation system is ever finished; it is always a work in progress. As communities grow and change, transportation systems must grow and change, constantly searching for better ways to meet our transportation needs.

All of our transportation priorities have a common theme. They are the services we owe to our customers - the traveling public and the businesses that rely on a safe, efficient and secure transportation network. Every improvement we make in enhancing safety, security and reliability translates into real improvements in quality of life for the people we serve, and real opportunities for economic growth and prosperity.

I look forward to working with you to build those opportunities in the year ahead.

Norman Y. Mineta
Secretary

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Notes:

[1/] Management challenges for DOT are identified in the following publications:

- *Top Ten Management Challenges*, DOT IG Report PT-2001-017, dated January 18, 2001;
- *Major Management Challenges and Program Risks, DOT*, GAO Report GAO-01-253, dated January 2001;
- *Major Management Challenges and Program Risks, A Governmentwide Perspective*, GAO Report GAO-01-241, dated January 2001;
- *High-Risk Series*, GAO Report GAO-01-263, dated January 2001; and
- *Budget of the United States Government, Fiscal Year 2002.*

[2/] The Inspector General has identified measurement/data issues for the Federal Aviation Administration's air traffic control function, the Research and Special Program Administration's pipeline safety function, and the Federal Motor Carrier Safety Administration's large truck safety function. These issues are addressed in the chapter entitled Performance Measurement, Verification and Validation.

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DOT's Combined Performance Plan and Report

The U.S. Department of Transportation (DOT) is committed to managing for results. Transportation is a key element in the production of goods and services in the United States; it helps maintain our standard of living, as well as support our Nation's defense. Everything we do at DOT is aimed at making measurable improvements in our transportation system, the security of our Nation, and the quality of American life.

This is DOT's second annual performance report and fourth annual performance plan. In this plan we set forth for the American public what specific outcomes we intend to achieve for America, along with the resources required to achieve that performance. We also report our progress in achieving the objectives in our Fiscal Year 2000 Performance Plan. We have again combined our report on 2000 results with our plan for 2002, so that the reader can clearly see where we have been and where we intend to go. But we are doing more than just reporting those results. We will succeed only when we understand historical trends, study recent results, and use this understanding to form the basis for our strategies and resource decisions.

Our combined Performance Plan (FY 2002) and Report (FY 2000) supports the planning and reporting framework that is central to our focus on managing for results:

The U.S. Department of Transportation's Strategic Plan provides a comprehensive vision for advancing the Nation's complex and vital transportation system into the 21st Century. For the next several years, it puts forth broad goals, targets specific outcomes we need to achieve, and identifies key challenges.

The DOT Performance Plan operationalizes the DOT Strategic Plan, and provides strong linkages to DOT's budget request. The Performance Plan defines those performance goals and measures that will be used to manage our progress toward strategic goal achievement. By closely linking these intended achievements to the budget, it describes in detail one fiscal year's effort within DOT and shows how this effort fits into the long-range plan for the Department and the U.S. transportation system.

The DOT Performance Report provides a public accounting of performance against the goals in the FY 2000 plan.

Terminology

We will use the following terminology throughout the plan and report:

Strategic Goal – statement from the DOT Strategic Plan, outlining the desired long-term end state.

Strategic Outcome – statement from the DOT Strategic Plan, outlining near-term objectives.

Performance Goal – a performance objective, connecting effects created by Departmental activities and programs, and the resulting influence on strategic outcomes.

Performance Measure - a measurable indicator of progress toward a performance goal, with annual targets.

The DOT Strategic Plan

The DOT Strategic Plan sets forth the overall direction, vision, and mission of the Department. The Strategic Plan covering this Performance Plan is dated July 2000 and covers the years 2000 through 2005. In that plan, citing the Department's enabling legislation from 1966, the purpose of the Department is described:

> *The national objectives of general welfare, economic growth and stability, and security of the United States require the development of transportation policies and programs that contribute to providing fast, safe, efficient, and convenient transportation at the lowest cost consistent with those and other national objectives, including the efficient use and conservation of the resources of the United States.*

The Strategic Plan also provides a mission statement to describe the underlying purpose for Departmental activities; identifies five Strategic Goals that capture the most important outcomes influenced by the Department's programs; and identifies one Organizational Excellence Goal, describing how DOT intends to manage for excellence:

VISION

"A visionary and vigilant Department of Transportation leading the way to transportation excellence and innovation in the 21st Century."

MISSION

"Serve the United States by ensuring a safe transportation system that furthers our vital national interests and enhances the quality of life of the American people."

STRATEGIC GOALS

Safety - Promote the public health and safety by working toward the elimination of transportation-related deaths and injuries.

Mobility - Shape an accessible, affordable, reliable transportation system for all people, goods, and regions.

Economic Growth – Support a transportation system that sustains America's economic growth.

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

National Security - Ensure the security of the transportation system for the movement of people and goods, and support the National Security Strategy.

ORGANIZATIONAL EXCELLENCE GOAL

Advance the Department's ability to manage for results and innovation.

How We're Organized

DOT employs about 100,000 civilian and military people across the country, in the Office of the Secretary of Transportation (OST) and through eleven operating administrations and bureaus, each with its own management and organizational structure:

Federal Aviation Administration

Federal Highway Administration

Federal Motor Carrier Safety Administration

Federal Railroad Administration

Federal Transit Administration

Maritime Administration

National Highway Traffic Safety Administration

Research and Special Programs Administration

St. Lawrence Seaway Development Corporation

United States Coast Guard

Bureau of Transportation Statistics

The Office of the Secretary of Transportation provides overall leadership and management direction, and administers aviation economic programs. The Office of Inspector General (OIG) and the Surface Transportation Board (STB), while formally a part of DOT, are decisionally independent by law and are not part of this plan.

How We Select Our Performance Goals

Performance goals in the DOT Plan focus on strategic outcomes because these convey a better sense of overall value to the American public. However, not all performance goals are at the same level on this continuum. For example, our goals for seat belt use and highway-rail grade crossing crashes both contribute to the strategic outcomes of reduced fatality and injury rates. Similarly, our goal for Intelligent Transportation Systems (ITS) integration focuses on intermediate outcomes that reduce highway congestion and mobile source emissions, and promote energy efficiency and safety (fatalities and injuries). All of these are included in the DOT Performance Plan because together they help tell the story of what we are aiming to accomplish, and how.

We have tried where possible to select performance measures that address activities in each area of DOT work. When considered along with external factors and information provided by program evaluations, these measurements give valuable insight into the performance of DOT programs. These measures, and the discussion of means and strategies under each, are not meant to illustrate every activity and performance indicator in the Department. This Performance Plan is necessarily a top-level depiction of managing for results within DOT. It is a capstone document, presenting an integrated depiction of performance for the entire Department, but it is not an exhaustive treatment of all DOT programs and activities. Therefore, it should be read in conjunction with the individual operating administrations' budget justifications and performance plans, which provide more detailed, program-specific performance measures and resource requirements.

How We Will Achieve Our Strategic and Organizational Goals

The Department will achieve its goals through its leadership role in U.S. transportation policy, operations, investment, and research. To influence results, DOT programs rely on a number of common interventions and actions. These include:

- *Direct operations and investment in DOT capital assets that provide capability,* such as FAA's air traffic control, and Coast Guard's vessel traffic services, maritime search and rescue, and military operations.

- *Infrastructure investments and other grants,* such as investment in highway, rail, transit, airport, and Amtrak capital infrastructure improvement, and grants for safety, job access, or other important transportation programs.

- *Innovative financial tools and credit programs,* such as those provided for by the Transportation Infrastructure Finance and Innovation Act, the Railroad Rehabilitation and Improvement Financing Program, and by loan guarantees for shipbuilding.

- *Rulemaking,* in areas such as equipment, vehicle or operator standards; for improving safety; and for fostering competition in the transportation sector of the U.S. economy.

- *Enforcement* to ensure compliance, including inspections, investigations, and penalty action.

- *Technology development and application,* such as fostering new materials and technologies in transportation, and transportation-related research.

- *Education,* such as consumer awareness, and campaigns to influence personal behavior.

- *Public information,* such as that provided by the Bureau of Transportation Statistics and each DOT operating administration, so that States, localities, regions, and private sector entities can better plan their activities.

Some of these interventions and actions reside entirely within the Federal Government, but most involve significant partnering with State and local authorities and with the transportation industry. These are the broad areas of action DOT – and State and local governments – commonly use to bring about desired results. Tax expenditures are also a significant tool by which the Federal Government encourages transportation investment, but do not represent a key tool of intervention by DOT.

This combined Performance Plan and Report focuses on DOT's five strategic goal areas, the results we saw in FY 2000, and the FY 2002 resources and activities that will help us achieve results. At the same time, some activities are internal ones – like financial management, procurement, and personnel -- without which the Department could not operate or hope to achieve its goals. The Organizational Excellence chapter of this plan focuses on overall DOT performance in achieving goals, ensuring that we meet our customers' needs, and that our workforce is well equipped to provide excellent service to the Nation.

How We Have Combined Our Plan for 2002 with Our Report for 2000

For each strategic and organizational goal, we present the key performance goals we will use in FY 2002 to guide our activities and judge our results, along with the goals we identified in the FY 2000 plan and our performance against them. For each performance goal we provide:

Component	Integral to Performance Planning	Integral to Performance Reporting
• A description of the challenge we face – the reason for action	X	X
• The measure or measures we are using to judge success, and the FY 2000-2002 goals for each	X	X
• Historical data – ten-year baseline where data are available	X	X
• The external factors that may present special challenges in achieving our goal	X	X
• A discussion of other agencies who share in our efforts, or whose outcome goals we contribute to	X	X
• An analysis of what happened in 2000	X	X
• An assessment of the FY 2001 plan, based on the 2000 results	X	X
• FY 2002 activities, resources, and any significant legislation or regulations we propose	X	
• Special management challenges (when related to goal)	X	X

An assessment of the completeness and reliability of our performance data, an explanation of how we verify and validate our measurements, and detailed information on the source, scope and data limitations for the performance data in this plan and report are provided in Appendix I. In that appendix, we also provide information on our plans to resolve the inadequacies that exist in our performance data.

Our 2000 Results: A Reader's Guide

DOT has measured and assessed performance in various programs for some time, and this is our second year of presenting a top-level look at outcomes across the entire Department. To present information meaningfully, we have relied on these general rules about data and data interpretation in preparing this report:

The Relationship between DOT's Activities and Observed Results: The relationship between resources and results can be complex. Results of direct service programs, such as Coast Guard migrant interdiction, are significantly influenced by current-year activities, and by external forces. Other results, such as highway congestion or transit ridership, are predominately influenced by prior-year funding. Almost all results are influenced by a mix of current and prior-year activity. Performance trends and current-year outcomes should be viewed with this understanding.

Fiscal Year versus Calendar Year: Again for FY 2000, most DOT results are reported on a fiscal year basis, but some are reported on a calendar year basis. Many DOT safety programs report results by

calendar year, because data capture and reporting by States has long been accomplished on that basis. Shifting to a fiscal year basis would require substantial cost to the States, make past-year comparisons difficult, and provide little additional program management benefit. We have been careful to note the calendar or fiscal year basis of result and trend measurement. Either is a satisfactory basis for measuring DOT's annual performance.

Preliminary vs. Final Results: Reporting 2000 results by March 2001 has been challenging where we rely on third party reporting. Often we have only preliminary or estimated results based on partial-year data and must wait for final data to properly verify and validate our results. In some cases where data is provided solely as an annual value and is not available in time for this report, we rely on historical trend information and program expertise to generate a projected result. We have been careful to point out where we have assessed our performance on a preliminary or projected basis. *Preliminary estimates or projected results* provide reasonable, quantitative assessments of our performance, but the reader should expect them to be adjusted after final compilation or verification and validation. In all cases where results have changed from last year's report, we indicate that by placing an "(r)" with the number, indicating a revision. Where significant differences exist in the actual result from the preliminary estimate or projection in last year's performance report, we discuss 1999 and 2000 results – displaying final results where preliminary measurements existed in our FY 1999 report, and preliminary or estimated results for FY 2000. Results that are final are not expected to need significant revision.

Single Year Results vs. Historical Trends: Federal and State programs rarely aim to influence simple things. We tackle complex national problems such as safety, pollution, and congestion. Sometimes we see progress overwhelmed by external factors, such as economic growth (or recession), market shifts, extreme weather, and other factors. Sometimes we get a "helping hand" from those same factors. In most outcomes there is natural fluctuation year to year – one can see it clearly in the ten-year trend lines.

DOT sets annual performance targets for the outcomes it aims to influence, regardless of these factors. Targets set a mark so we can judge our progress. They also force us to think hard about what we can – and can't – do to get results. In this report, we focus on single-year results for 2000. There is no simple formula that ties the results in one year to the success or failure of programs. DOT's 2000 Performance Report invites the reader to "look over our shoulder" at the real-world picture we are studying as we try to make transportation and the lives of Americans better.

Performance Progress Report: To help interpret single year results and historical trends, we have provided a Performance Progress Report at the front of each strategic goal section. These tables provide data from 1994-2000, DOT's 2000 target, and a quick assessment of whether the target was met or a good trend was observed. Judging a good trend is sometimes difficult – if the goal was not met in 2000, we have looked for an improving trend from 1998 to 2000. For this reason, we provide time-series data in graphic form on each goal page. An assessment of overall goal attainment is described in the Organizational Performance goal in this report. Readers should view our 2000 results with an eye both to attainment of the performance target and to the long-term trend.

Our 2002 Plan: A Reader's Guide

Fiscal Year 2002 marks our fourth DOT Performance Plan. This year's product builds on the suggestions of the General Accounting Office, DOT's Inspector General, and other stakeholders, plus what we have learned within our own programs. Again, several broad principles have guided us in presenting our performance plan:

Setting Annual Performance Targets: DOT's targets for 2002 reflect the gains we think we can make in each goal area. There's no exact science to calibrate "targets" to resources. The goals we've set reflect a combination of current funding, past funding, program initiatives, and the actions of our partners. We do not expect to achieve all of our targets since we are striving to set "stretch" goals and to hold ourselves to high standards. However, if we miss a target, we want to be sure that our results are moving in the right direction.

How We Have Improved Some Measures: This is our fourth year of performance planning – and of verification and validation. In a number of cases we have found better ways to define the measure or compile the data, creating a more sensitive and realistic indicator. In some cases we have developed entirely new measures. We will continue to improve measures where we think it will improve our management and our accountability. Where we have replaced 2000 measures with new ones, we still report results on the original 2000 goals – we believe that this is important for accountability. Where we have refined and improved a measure, we present the "old" trend line along with several years of historical data in the "new" format. This permits the reader to see the degree of offset, and compare trends before and after the change.

FY 2002 Resources and Our Goals: A fundamental strength of DOT programs is that existing capacity delivers public value in multiple goal areas. By design, a dollar spent on transportation infrastructure may also advance safety, mobility, economic growth, the mitigation of harmful impacts, or national security. New this year, we include graphs or tables attributing budgetary resources to performance goals in each performance goal page. In this fashion, we have made the linkage of resources to performance goals more clear. Appendix II shows this information by strategic goal in summary form.

Management Challenges:
The DOT Inspector General, the General Accounting Office, and the Office of Management and Budget have identified management challenges and Priority Management Objectives, and the Inspector General and the General Accounting Office have published reports that describe a number of problems and challenges facing the Department. We take these issues seriously, and have folded our approach to meeting these challenges into our general efforts to achieve the outcomes we seek for the Nation. In general, where there is a DOT performance goal associated with a specific management challenge, we have included a discussion of the challenge on that goal page, and made it stand out visually by use of a text box, as shown in the example to the right. We also indicate where a Management Challenge relates to more than one performance goal.

> ***Special Focus: Management Challenges***
>
> Our performance measures and results are the focus of this combined plan and report. Transportation outcomes are what we aim for, every day. But how we achieve these results is also vitally important. The public entrusts us not only to improve transportation safety and performance, but also to manage our resources and programs wisely. Throughout this plan and report we identify the key management challenges we must address and overcome as we work towards meeting specific performance goals.

DOT Contributions to Common Governmental Outcomes: DOT's performance is aligned with its legislative mandates, but in some cases there are no "bright lines" separating DOT from other Executive Branch agencies. For instance, in DOT's National Security Strategic goal, we make very important contributions in accordance with our mandates and appropriations, but we are hardly alone in that regard. We contribute to the national security alongside such Departments as Defense, State, Justice, Commerce, and Energy. Similarly, other agencies, operating within their separate mandates and resource levels make significant contributions to the Nation's transportation system, such as the Departments of Defense and Commerce, and the National Aeronautics and Space Administration.

Performance Goals - Safety

Performance Goal	Page	Data Details
Reduce Fatalities and Injuries		
Highway Fatality and Injury Rates	13	167
Alcohol-Related Highway Fatalities	16	169
Large Truck-Related Fatalities and Injuries	18	170
Recreational Boating Fatalities	21	172
Mariner Rescue	23	173
Passenger Vessel Fatalities	25	176
Rail Fatality Rate	27	178
Transit Fatality and Injury Rates	29	179
Reduce Accidents and Incidents		
Seat Belt Use	31	179
Air Carrier Fatal Accident Rate	33	180
General Aviation Fatal Accidents	36	181
Runway Incursions	38	182
Air Traffic Operational Errors	41	182
Highway-Rail Grade Crossing Accidents	43	183
Pipeline Failures	44	184
Hazardous Materials Incidents	47	184

STRATEGIC GOAL: SAFETY

Promote the public health and safety by working toward the elimination of transportation-related deaths and injuries.

Safety is our most important strategic goal. Transportation enables the movement of people and goods, fueling our economy and improving our quality of life. However, transportation exposes people, property and freight to the risk of harm. We strive to improve the benefits of transportation while constantly reducing the risk to health and well being. The FY 2002 budget proposes $7.3 billion for safety programs to meet this challenge — more than a 7% increase over 2001.

We Aim To Achieve These Strategic Outcomes:

- Reduce the number of transportation-related deaths.
- Reduce transportation-related injuries.
- Reduce the probability and potential severity of transportation incidents and accidents.

This section includes a Performance Progress Report for 1994-2000 describing how well we achieved the goals in our 2000 Performance Plan, beginning with a discussion of aggregate transportation safety in the United States.

This section also includes pages for each performance goal describing 2000 results and 2002 targets (goals). Alongside our 2000 results, we note if the target was met. If the target was missed but recent data show the trend responding in a good direction, we note that important result. A detailed analysis of performance results for 2000 and our strategies and initiatives for 2002 follow the Performance Progress Report.

PERFORMANCE GOALS

Reduce Fatalities and Injuries

Highway Fatality and Injury Rates

Alcohol-Related Highway Fatalities

Large Truck-Related Fatalities and Injuries

Recreational Boating Fatalities

Mariner Rescue

Passenger Vessel Fatalities

Rail Fatality Rate

Transit Fatality and Injury Rates

Reduce Accidents and Incidents

Seat Belt Use

Air Carrier Fatal Accident Rate

General Aviation Fatal Accidents

Runway Incursions

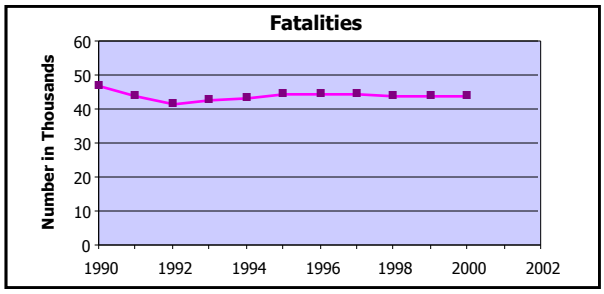
Air Traffic Operational Errors

Highway-Rail Grade Crossing Accident Rate

Pipeline Failures

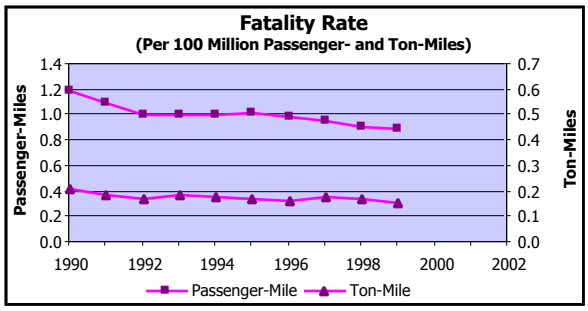
Hazardous Materials Incidents

Fatalities:



After several years of decline, the overall number of transportation fatalities grew from 1992 to 1995, and then plateaued through 1997. A slight downward movement appears again in 1998 through 1999. Based on projections from preliminary data for 2000, transportation fatalities rose slightly from 1999 (43,866) to 44,041. (Preliminary estimates for 2000 are available only for the number of fatalities and the number of injured persons. Data for transportation-wide fatality and injury rates and for transportation incidents will be available by the end of 2001.)

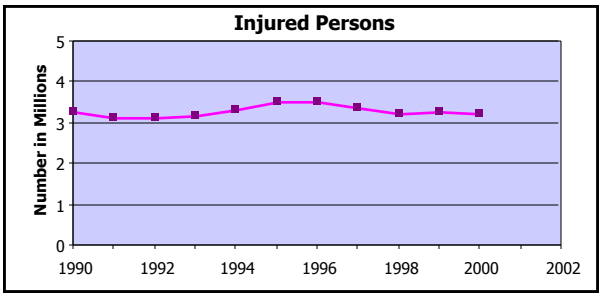
A slight rise in highway fatalities in 2000 of 189 (with highway fatalities accounting for approximately 94% of all transportation fatalities) explains the direction of overall fatalities. The increase is not statistically significant, but it is in the wrong direction.



Economic growth and changing mobility needs have fueled growth in passenger-miles traveled. Deaths per 100 million passenger-miles have shown a downward trend from 1996 through 1998, following a relatively constant level from 1992 to 1995. Again, this aggregate measure is significantly influenced by the highway fatality rate. The continued decrease in 1999 meets the strategic outcome goal of reducing the rate of transportation-related fatalities, measured against passenger-miles. Achieving further reductions in fatality rates will require changes in personal behavior (such as seatbelt use, reduction in alcohol-related crashes, or consumer choice of the safest modes of transportation) and improved transportation technologies.

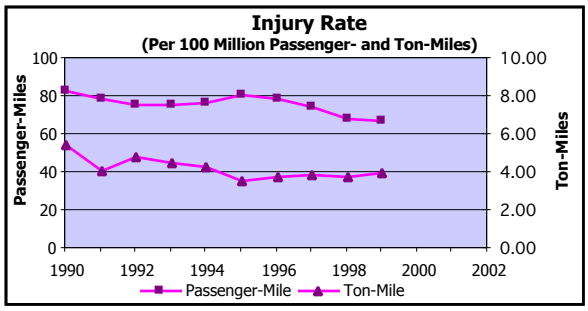
The rate of fatalities per ton-mile of freight has followed a similar pattern, and decreased slightly in 1999 after having remained level for several years. While its significance is still uncertain, this decrease in 1999 also meets the strategic outcome goal of reducing the rate of transportation-related fatalities, in this instance measured per ton-miles.

Injuries:



While fatality measures tend to receive more public attention, transportation injuries are a significant burden on individuals and on our society as well. Although injuries rank below fatalities in severity, they extract a cost from our society in hospitalization and medical costs and lost productivity, to say nothing of pain and suffering. Like fatalities, this trend is dominated by trends in highway crashes, which account for 99% of the transportation-related injuries and have an estimated cost of $150 billion annually. Over the last eleven years, the number of injured people appears to have peaked in 1996, followed by a decrease for the last several years. Although the number of injured persons remained virtually the same from 1998 to 2000 (based on preliminary data), the overall trend since 1996 meets the strategic outcome goal of reducing the number of transportation-related injuries. Again, this was a particular challenge given the fairly steady rise in travel.

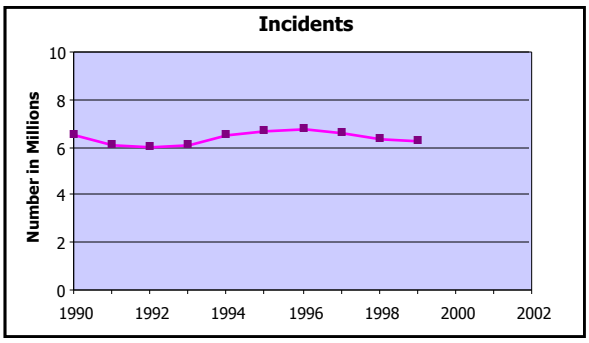
Also like the transportation fatality rate, the injury rate per 100 million passenger-miles has been declining for the last several years, after a peak in 1995. This continued downward trend in 1999 meets the strategic outcome goal of reducing the rate of transportation-related injuries, as measured against passenger-miles.



The rate of transportation injuries per 100 million ton-miles of freight has also been generally downward in the last decade, but based on projections from preliminary estimates in 1999, injuries per ton-mile increased from 3,748 in 1998 to 4,003 in 1999. Substantial caution must be used in drawing any conclusion from this estimate, but it potentially presents a worrisome indicator.

Transportation Incidents:

Transportation incidents (crashes, system failures, spills, releases, etc.) are precursors to injuries and fatalities. As such, they provide another key indicator for managers. Reducing the number and rate of crashes is generally considered to be the most beneficial intervention to reduce fatalities and injuries.



The trend in transportation incidents has been downward since 1996, after a period of climbing numbers of incidents since 1992. The number of incidents decreased by about 57,000 from 1998 to 1999, which corresponds to the strategic goal of reducing the number of reportable transportation incidents.

Performance Progress Report: Safety

	1994	1995	1996	1997	1998	1999	2000	2000 Target	Target Met	Good Trend
Highway Fatalities/100 million VMT	1.7	1.7	1.7	1.6	1.6	1.5	1.6*	1.5		
Highway Injuries/100 million VMT	139	143	140	131	122	120	119*	116		X
% highway fatalities alcohol-related	41	41	41	39	39	38	38*	35		X
Fatalities involving large trucks	5,144	4,918	5,142	5,398	5,395	5,362	5,307*	4,934		X
Injuries involving large trucks (000's)	133	117	129	131	127	142	145*	125		
Recreational boating fatalities	831	888	770	857	864	778	742*	763	X	
% mariners rescued that are reported in imminent danger	96.0	93.6	93.2	93.1	94.4	95.4	93.4	93	X	
% property saved that is reported in imminent danger	85.8	94.6	91.9	76.5	92.2	79.5	63.8	80		
High-risk passenger vessel casualties/1000 vessels	50	50	57	54	55	45	41*	53	X	
Train accidents/million train-miles	3.82	3.67	3.64	3.54	3.77	3.89	4.01*	3.38		
Rail-related fatalities/million train-miles	1.87	1.71	1.55	1.57	1.48	1.31	1.29*	1.30	X	
Transit fatalities/100 million PMT	0.664	0.564	0.520	0.545	0.564	0.530	0.519	0.502		X
Transit injured persons/100 million PMT	134.8	132.8	127.3	118.3	118.9	114.9	107.5	121.9	X	
% front occupants using seat belt	67	68	68	69	70	67	71	85		
U. S. commercial fatal aviation accidents/100,000 flight hours	0.044	0.031	0.036	0.055	0.006	0.039	0.022*	0.033	X	
Fatal general aviation accidents	430	436	389	371	383	354	369*	379	X	
Runway incursions	200	240	275	292	325	322	429	248		
Operational errors/100,000 activities	0.53	0.52	0.51	0.49	0.56	0.57	0.684	0.486		
Operational Deviations/100,000 activities	0.11	0.10	0.10	0.12	0.18	0.17	0.210	0.097		
Grade crossing accidents divided by the product of million train-miles and trillion VMT	3.22	2.87	2.57	2.27	1.98	1.83	1.78*	1.57		X
Natural gas transmission pipeline failures	4,933	4,767	4,964	4,871	4,160	4,467	4,322**	4,451		
Serious hazardous materials incidents in transportation	427	408	466	423	430	377	396*	411	X	

* Preliminary estimate
** Projection

HIGHWAY FATALITY AND INJURY RATES: In 2000, motor vehicle crashes killed an estimated 41,800 Americans and injured over 3.2 million others, taking a heavy toll on American families and costing more than $150 billion in medical and other costs. Highway crashes cause 94 percent of all transportation-related fatalities and 99 percent of transportation injuries. They are the leading cause of death for people ages 5 through 29.

Performance measure: Fatalities per 100 million vehicle-miles of travel (VMT).

	1999	2000	2001	2002
Target:	1.6	1.5	1.5	1.4
Actual:	1.5(r)	1.6#		

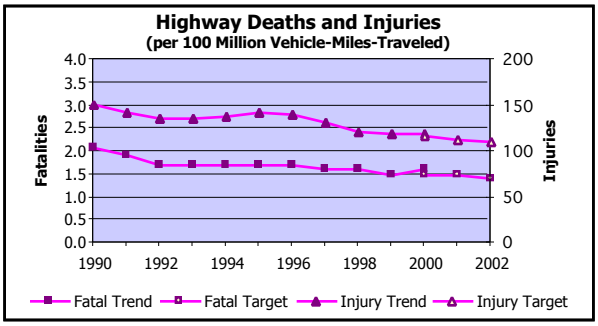
Performance measure: Injured persons per 100 million vehicle-miles of travel.

	1999	2000	2001	2002
Target:	127	116	113	111
Actual:	120(r)	119#		

 # Preliminary Estimate

(r) Revised

External Factors: Vehicle travel is expected to grow at approximately 2 percent per year. Fluctuations in VMT, as happened in 2000 when VMT did not grow, will affect fatality and injury rates. In addition, the highest risk population groups -- older drivers and drivers ages 15 to 24 -- are growing at faster rates than the overall population. The number of younger drivers age 15 to 24 grew by 1.6 percent in 2000, nearly twice as fast as the total population. People in this age group accounted for an estimated 25 percent of 2000 traffic fatalities. Although the number of people 70 years and older makes up 9 percent of the total U.S. resident population, they comprised an estimated 12 percent of all traffic fatalities in 2000.



2000 Results: Based on preliminary estimates, DOT met neither the highway fatality nor injury rate targets. The estimated 41,800 fatalities in 2000 increased by 189 from last year's total of 41,611, and there was a slight but statistically insignificant increase in the fatality rate. The fatality increase is partly due to a jump in fatal motorcycle accidents. In 2000 there were 2,680 motorcycle deaths, 208 (or 8%) more than in 1999. Additionally, there was a 2.5% increase in deaths among 16-20 year old drivers (3,481 in 1999 to 3,570 in 2000).

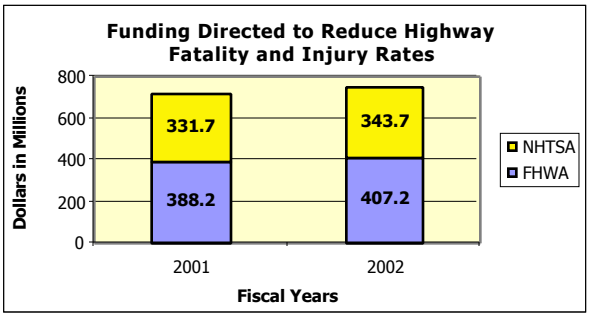
DOT continued to combine the best injury prevention practices into the Safe Communities approach. Communities are in the best position to improve motor vehicle safety. When a community takes ownership of an issue - traffic safety or otherwise - positive results occur. There were 1,000 Safe Community sites by the end of 2000, up from 730 in 1999. Safe Communities members in Norwich and Montville, Connecticut, for example, collected data on traffic trends throughout their respective towns and developed brochures that describe the best routes through the town. Other community projects included a speed monitoring program, increased seat belt enforcement, a public awareness campaign, and a school-based program addressing pedestrian and school bus safety.

NHTSA issued a final rule amending Federal Motor Vehicle Safety Standard No. 208 to improve the safety benefits of air bags, while reducing the associated risks. This rule continues a comprehensive set of requirements based on the steps that NHTSA announced in 1996, including the use of advanced air bags to improve automatic crash protection for occupants of various sizes, belted and unbelted, and to minimize the risks posed by air bags to infants, children, and other occupants.

FHWA emphasized a comprehensive approach to safety management to insure that highway infrastructure is designed, built, and operated in such a way as to reduce the number and severity of crashes.

FY 2001 Performance Plan Evaluation: DOT expects to meet the 2001 performance targets.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT will reduce the rates of fatalities and injuries per 100 million vehicle-miles of travel through initiatives aimed at reducing the occurrence and consequences of traffic crashes. NHTSA will continue to focus on reducing the number of alcohol-impaired drivers ($49 million), increasing seat belt use ($26 million) [see separate goal pages for each of these], and increasing bicycle and pedestrian safety. FHWA and FRA will also continue to make highways safer by improving the safety of the roadway itself; increasing the safety of rail-highway grade crossings; improving the safety of vehicles; developing intelligent vehicle technologies; and encouraging people to shift from highways to safer forms of travel.

- FHWA will continue its grant programs for highway safety, and broadly advance its comprehensive research and outreach programs.

- NHTSA will focus on preventing crashes through programs to address pre-crash, crash, and post-crash events involving humans, vehicles, and the environment.

- NHTSA will continue to perform compliance tests to assure conformity with the Federal Motor Vehicle Safety Standards, investigate potential safety-related defects, and monitor safety recalls to assure that noncompliant and defective vehicles and equipment are remedied.

- NHTSA will work with all DOT modes to increase the number of Safe Communities. This approach builds local coalitions to identify and address their traffic injury problem.

- A large scale "Teen Traffic Safety Program" will target the age group that consistently experiences higher fatality and injury rates than any other age group. The program will work to increase seat belt use and reduce the incidence of impaired driving and speed.

- Regulatory initiatives in FY 2002 will address offset frontal protection; upgraded side impact and roof crush protection; upgraded child restraint requirements; upgraded seat back strength requirements; auxiliary and headlamp glare reduction; and upgraded tire standards and a tire pressure warning requirement (from the TREAD Act).

- NHTSA will launch a major, new research initiative to reduce the number of fatalities and injuries associated with rapidly increasing levels of driver distraction from advanced in-vehicle technologies, such as wireless telephones, installed by vehicle manufacturers. Additionally, large-scale consumer education programs will be initiated to inform drivers on the safe use of this new in-vehicle technology.

- FMCSA will continue programs designed to reduce fatalities and injuries associated with large truck crashes. (See the goal page for Large Truck-Related Fatalities and Injuries for a discussion of strategies and programs.)

FHWA will focus on a set of infrastructure and operations topic areas that most affect fatalities on America's roadways. NHTSA and FHWA work in close partnership in several of these initiatives. The focus areas are:

- Single-Vehicle Run-off-the Road (ROR) Crashes – Typically caused by inattention, drowsiness, or avoidance maneuvers, this is a contributing cause of 38 percent of fatalities. FHWA's two-pronged approach will concentrate efforts at both keeping vehicles within the roadway travel lane and minimizing harmful effects when vehicles do leave the roadway.

- Intersections – Extensive work will be devoted to developing a comprehensive program to address crashes at or near intersections, which account for 23 percent of fatalities. Significant efforts in areas such as red-light-running, road safety audits, and intersection design are underway, and significant increases to address this overall issue are planned.

- Speed-related Crashes – Speed contributes to 30 percent of fatalities, and FHWA and NHTSA are working together on a comprehensive

speed management team. FHWA's activities will be focused in two main areas: (1) Promotion of Variable Speed Limits, which utilizes Intelligent Transportation Systems (ITS) tools for gathering speed and volume, weather, and road surface information to determine appropriate speeds at which drivers should be traveling, given current conditions; and (2) promotion of reasonable and safe posted (static) speed limits that are enforceable and accepted by the driving public as being set on a rational basis.

- Pedestrian/Bicycle Safety – DOT supports making the Nation's roads safer for ALL road users, including bicyclists and pedestrians, which account for 13 percent of fatalities. NHTSA and FHWA will work with other partners to increase safe walking and bicycling by focusing on the integration of pedestrian and bicyclist issues in the planning and design of facilities; researching and developing appropriate tools and technologies; and implementing key recommendations from national expert panels.

Management Challenge – Motor Vehicle Safety (IG)

The IG made three findings related to motor vehicle safety: (1) Despite the combined efforts of Federal, State, and local governments, seat belt use rates have remained relatively constant, ranging from 66 to 70 percent since 1993. Preliminary 2000 seat belt use rates are at 71 percent nationwide, below the national goals of 85 percent for 2000 and 90 percent for 2005; (2) Early identification of defects by NHTSA's Office of Defects Investigation (ODI) can be improved. During the hearings on the Firestone tire recall, Congress questioned the preparedness of ODI to handle information that may contain early warning signs of product defects; and (3) The TREAD Act requires NHTSA to conduct 10 rulemakings in the areas of defects, tires, and rollover tests. Six of the 10 rulemakings must be completed in 2001 or 2002. Since the IG found that it takes DOT an average of 3.8 years to complete a rule, significant management effort will be required to issue these rules in the time frame required by the Act.

NHTSA Actions:

Stategies to increase seat belt use are discussed on the Seat Belt Use goal page. NHTSA actions to address TREAD issues include:

- NHTSA issued an Advanced Notice of Proposed Rulemaking (ANPRM), "Standards Enforcement and Defect Investigation and Noncompliance Reports Records Retention," on January 22, 2001 (66 FR 6532). NHTSA will issue the final rule due by June 30, 2002.

- NHTSA published an ANPRM on December 1, 2000, to improve tire labeling. The final rule is required by June 2002.

- By June 2002, NHTSA will complete a rulemaking to revise and update tire safety standards.

NHTSA is undertaking a number of actions in the area of Child Restraint Safety such as requiring clearer warning labels on child restraints (Final Rule to be completed by November 2001), studying booster seat effectiveness, and creating a child restraint safety ratings program (Final Rule to be completed by November 2002).

Other Federal Programs with Common Outcomes: All Federal agencies are involved in an initiative to increase seat belt usage. NHTSA and HHS work together on several public health issues, such as drinking and driving, child safety, and emergency medical services.

Both DOT and the National Transportation Safety Board strive to understand the causes of transportation incidents and to reduce the number of highway-related fatalities and injuries.

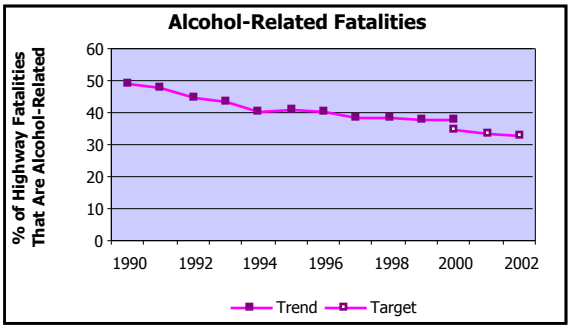
ALCOHOL-RELATED HIGHWAY FATALITIES: About 3 in every 10 Americans will be in an alcohol-related crash at some time in their lives. Alcohol-related fatalities account for almost 40% of all highway fatalities. While down from 25,000 in 1982, an estimated 16,068 people died in alcohol-related motor vehicle crashes in 2000. Alcohol is the single biggest contributing factor to fatal crashes. The Department's goal is to reduce alcohol-related fatalities to no more than 11,000 by 2005.

Performance measure: Percentage of highway fatalities that are alcohol-related.

	1999	2000	2001	2002
Target:	36%	35%	34%	33%
Actual:	38% (r)	38%#		

 # Preliminary Estimate
(r) Revised

External Factors: Travel, population, and employment changes have a large influence on traffic fatalities, generally, and on alcohol-related traffic fatalities, in particular. If these factors increase rapidly in States, statistical models show that influencing the alcohol-related fatality rate is more difficult.



2000 Results: Based on a preliminary estimate, it appears that DOT again did not meet the target. While the number of alcohol-related fatalities has decreased 32 percent since 1988, alcohol-related fatalities as a percentage of total fatalities have stayed constant since last year. Alcohol consumption among 16 to 20 year olds has increased every year since 1993. The percentage of alcohol-related fatalities associated with this group increased slightly from last year (24% in 2000 vs. 21% in 1999).

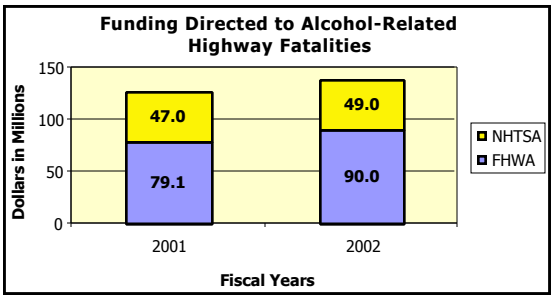
DOT worked with other Federal agencies, States, and non-governmental organizations in influencing the number of alcohol-related fatalities. All States plus the District of Columbia (DC) now have zero tolerance laws prohibiting any level of alcohol in the blood of a driver who is under 21. Both Maine and Oregon, for example, have enacted zero tolerance laws. In Maine, where the blood alcohol concentration (BAC) level was reduced from .02 to .00 BAC, there was a 36 percent reduction in nighttime, single vehicle injury (NSVI) crashes involving drivers under age 21. In Oregon, where the .00 BAC limit was changed to include not only those 18 and under, but all those 21 and under, there was a 40 percent reduction in NSVI.

TEA-21 authorized $500 million over 6 years for incentive grants to States that enact and enforce laws that make it illegal to operate a motor vehicle with BAC of .08 percent or greater. TEA-21 also authorized $219.5 million over 6 years to continue the Section 410 alcohol-impaired driving countermeasures incentive grant program. To qualify for this grant, States must either demonstrate that they have in place certain laws or programs, such as administrative license revocation laws and graduated licensing programs, or meet certain performance criteria based on their alcohol-related fatality rates. States use Section 410 grant funds to implement and enforce alcohol-impaired driving countermeasures.

FY 2001 Performance Plan Evaluation: DOT will be challenged to achieve its target this year, based upon last year's performance.

However, the DOT FY 2001 Appropriations Act contains a provision to prompt States to adopt a standard of .08 BAC and thus reduce alcohol-impaired driving. Currently 19 states, the District of Columbia and Puerto Rico have .08 BAC laws. Performance results should improve as additional States enact .08 BAC laws. Nearly every study of .08 BAC law effectiveness has concluded that these laws are associated with reductions in alcohol-related fatalities in States that have enacted them.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT will develop and implement countermeasures designed to reach high-risk drivers including youth, 21-34 year olds, and repeat offenders. DOT will work with State and local partners to test new programs to convey the "don't drink and drive" message to the highest risk populations.

NHTSA's impaired driving counter-measures operations and research programs ($11.5 million) will focus on reducing alcohol and drug use associated with driving. Programs include ongoing efforts in:

- Initiating an analysis of targeted State enforcement efforts to include an evaluation of projects completed in five States, preliminary results from the second round of five States, and initiation of public opinion surveys in the second-round States.

- Initiating action grant programs with national organizations, advocacy groups, and law enforcement to obtain support for highly visible enforcement and prevention activities. Continue outreach grants with national organizations and employers on impaired driving issues.

- Developing and pilot testing a new, comprehensive youth enforcement strategy that will encompass detection of speeding offenses, zero tolerance (alcohol) violations, and seat belt violations. Officers will be trained to look for a combination of these offenses, which occur so frequently in the young driving population, to increase deterrence of each offense.

- Developing resource trial manuals/bench books focusing on prosecuting and adjudicating the high BAC offender, including treatment, innovative sanctioning alternatives, and exploring the implementation of special "DWI" courts.

- Initiating demonstration programs which address criminal justice processing issues (e.g., police paperwork, diversion programs, imposition of sanctions using impoundment, and new technology).

- Continuing the national campaign "You Drink & Drive - You Lose" to keep the impaired driving issue in the forefront of public attention.

- Conducting a demonstration program with university police departments to address zero tolerance enforcement.

- Develop new strategies and interventions to reach high-risk groups, including youthful drivers, 21 to 34 year olds, and repeat offenders.

- Working with States to improve their impaired-driving programs through new Alcohol Forums that will examine data and develop action plans, and through the improved technology of the Standardized Field Sobriety Testing program.

TEA-21 provides new grant programs focusing on reducing the incidence of impaired driving. In FY 2002, $100 million in grants are available to States that enact and enforce .08 BAC laws; an additional $38 million are available to States that implement strong laws and programs to combat alcohol-impaired driving. On October 1, 2002, a State that has not enacted and is not enforcing an Open Container or Repeat Offender law will have 3 percent of the State's Federal-aid highway funds transferred to the State's Section 402 State and Community Highway Safety grant program. The funds transferred to the Section 402 program must be used for impaired driving programs.

Other Federal Programs with Common Outcomes: NHTSA works with agencies and organizations with complementary goals -- HHS, the Office of National Drug Control Policy, and the Justice Department -- to reduce societal demand for alcohol and illegal drugs, and to reduce the incidence of drinking and driving crashes. Further, the DOT rule which mandates drug testing for transportation service providers is another important element of the national effort to reduce demand for illegal substances, and the inappropriate use of a legal substance (alcohol). NTSB investigates significant crashes and helps provide information on causes and potential solutions.

LARGE TRUCK-RELATED FATALITIES AND INJURIES: In 2000, an estimated 5,307 Americans died and an estimated 145,000 were injured in traffic crashes involving large trucks – about 13% of all people killed in motor vehicle incidents. Yet trucks represent only 4 percent of registered vehicles and about 7 percent of the vehicle-miles of travel. Fatality and injury rates for large truck crashes dropped 28 and 30 percent, respectively, from 1990 to 2000, even as the population of motor carriers doubled and commercial vehicle travel mileage increased 38 percent during the last decade. To focus more attention on this national problem, DOT set goals to reduce injuries in large truck-related crashes 20 percent by the end of 2007, and to reduce large truck-related fatalities 50 percent by the end of 2009.

Performance measure: Number and rate (per 100 million commercial VMT) of fatalities in crashes involving large trucks.

Target:	**1999**	**2000**	**2001**	**2002**
Number:	N/A	4,934	4,830	4,710
Rate:	N/A	N/A	N/A	2.2
Actual:	**1999**	**2000**		
Number:	5,362(r)	5,307#		
Rate:	2.7	2.6#		

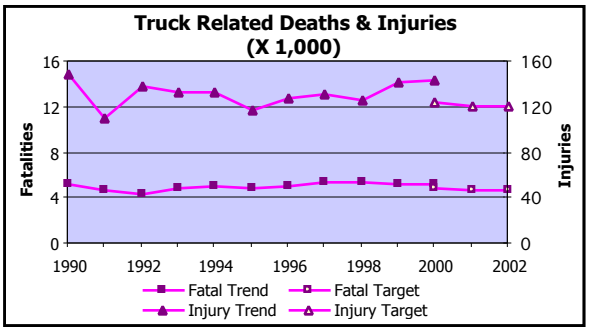
Performance measure: Number (000s) and rate (per 100 million commercial VMT) of injured persons in crashes involving large trucks.

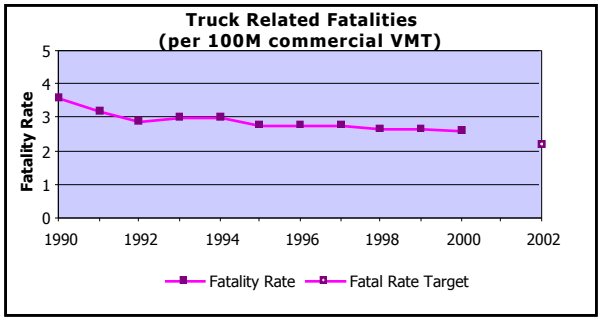
Target:	**1999**	**2000**	**2001**	**2002**
Number:	N/A	125	122	121
Rate:	N/A	N/A	N/A	56
Actual:	**1999**	**2000**		
Number:	142(r)	145#		
Rate:	71	72#		

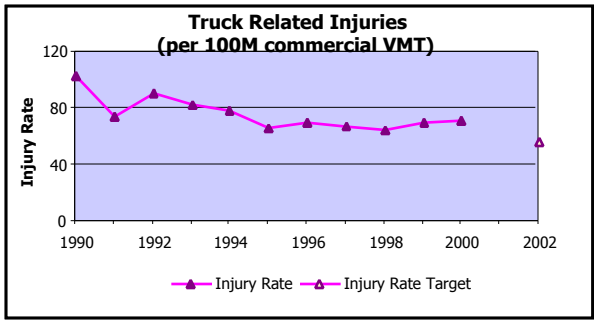
 # Preliminary estimates

(r) Revised

External Factors: More commercial vehicles and motor carriers are being registered, and traffic volume, including truck and bus travel, is increasing. Business conditions and the amount of experience of commercial truck drivers may affect efforts to improve safety management practices and reduce large truck crashes. Competitive pressures are likely to persist due to the real-time visibility of freight shipments, just-in-time delivery requirements of customers, and shifting patterns in truckload volume and travel.



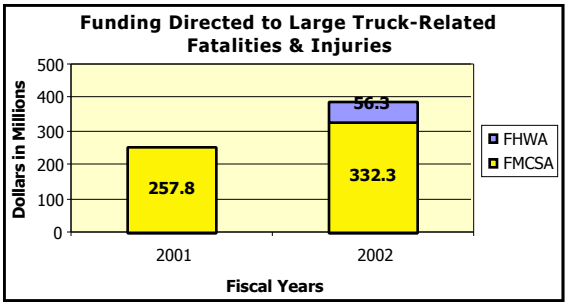




2000 Results: Based on preliminary data, DOT did not reach its performance targets; however, the slight reduction in fatalities shows progress toward meeting our goal. Preliminary estimates do not show a statistically significant change in the number of injured persons from last year, so substantial progress still needs to be made. Crash causation data analysis efforts will continue as part of DOT's overall strategy to develop countermeasures aimed at reducing the number of injuries and fatalities resulting from large truck crashes.

FY 2001 Performance Plan Evaluation: DOT will be challenged to meet the performance target in 2001. FMCSA is increasing the number of vehicle inspections and carrier compliance reviews, conducting stronger enforcement measures, expediting commercial vehicle safety-related rulemaking actions, and improving the commercial driver's license program. FMCSA is also expanding its research and technology program and increasing its effort to test and deploy technologies to improve driver and vehicle performance.

Strategies and Initiatives to Achieve 2002 Targets: DOT resources attributable to this performance goal are depicted below:



In 2002, FMCSA will improve safety operations in the following areas:

- Improve safety operations by improving and expanding safety oversight, outreach, enforcement activities; increase motor carrier inspections and compliance reviews; and improve safety data collection. ($14 million)

- Improve research and technology by field testing advanced truck safety technologies; testing dynamic roadside enforcement equipment; developing new driver selection, testing, licensing and training techniques; using simulation and instrumented vehicles to determine unsafe motor carrier driver actions; and researching counter-measures derived through analysis of early crash causation study results. ($14 million, $4 million above FY 2001.)

The National Motor Carrier Safety Program's (NMCSP) requested funding level is $205 million, 16% above FY 2001, and includes:

- $183 million dedicated to State motor carrier safety grants. Grants will be used to increase the number of compliance reviews in States; identify and apprehend traffic violators; increase the volume of roadside inspections; improve State commercial driver's license oversight activities; and support State enforcement efforts at the southern border.

- $5 million to continue a comprehensive study on commercial vehicle crash causation initiated in FY 2001.

- $17 million for the Information Systems and Strategic Safety Initiatives (ISSSI) program. The program's implementation is shared by FMCSA and the States, and supports motor carrier information system and data analysis activities including: SAFESTAT technology, used to target high-risk motor carriers for compliance reviews; and the Performance Registration Information and Systems Management program (PRISM), which links State motor vehicle registration systems with carrier safety data in an effort to identify unsafe commercial motor carriers.

For improving the safety of trucks and buses crossing the U.S.-Mexican border, the budget requests funding for the following initiatives:

- Construction of State and Federal inspection facilities at the U.S./Mexico border, $56 million, derived from Federal Highway Administration Revenue Aligned Budget Authority (RABA).

- Federal safety enforcement operations and an additional 80 Federal enforcement personnel ($14 million).

- Motor carrier safety grants for enhanced State enforcement operations at the southern border ($18 million included within NMCSP State grant funding).

Management Challenge - Large Truck Safety (IG/GAO)

The IG stated in early 1999 that improvements in motor carrier safety should include efforts to: strengthen enforcement; improve the quality and timeliness of data; identify unsafe motor carriers; improve crash data analysis; and standardize data collection procedures.

GAO's concerns extend to staffing in FMCSA; truck safety data quality and causal analysis; adequacy of FMCSA's resources; and safety rulemaking.

In FY 2000, FMCSA addressed these challenges by:

- Increasing the number of compliance reviews by 68 percent and the number of enforcement cases the agency handled by 39 percent, when compared to FY 1999.

- Completing a Final Rule with stronger enforcement provisions against motor carriers, brokers, and freight forwarders for fail-

ure to pay safety fines.

- Completing a Final Rule to shutdown motor carriers that are unfit and fail to correct safety deficiencies.

- Adding six additional States to the Performance Registration and Information System Management (PRISM) program, raising the total number to 18.

- Increasing the number of States involved in Commercial Vehicle Information Systems and Networks (CVISN) deployment from 10 in 1999 to 30 in 2000.

- Initiating a crash causation study with NHTSA.

In FY 2001-2002, FMCSA will continue to respond to these challenges by:

- Maintaining Federal enforcement at current levels of compliance reviews.

- Funding an increase in State roadside inspections, compliance reviews, and traffic enforcement efforts.

- Completing additional rulemaking actions related to operating authority for Mexican motor carriers and commercial driver's license improvements.

- Further deploying PRISM and CVISN in additional States.

- Completing real-world operational tests of advanced commercial vehicle safety technologies.

- Completing the pilot phase of the crash causation study with NHTSA.

- Beginning tests of an improved motor carrier crash data collection system, in cooperation with NHTSA and the States.

Other Federal Programs with Common Outcomes: FMCSA coordinates efforts with agencies in the Departments of Treasury and Justice to enhance commercial vehicle safety at the U.S. borders. An example project is the development of an International Trade Data System with U.S. Customs. FMCSA is a participant in the 21st Century Truck Initiative research program involving the DOD, DOE, DOT, and EPA.

RECREATIONAL BOATING FATALITIES: During the last decade, approximately 800 Americans died each year from boating accidents, usually from drowning. Recreational boating is a popular activity in America, and the popularity of personal watercraft (PWC) continues to be strong. There are about 78 million recreational boaters in the United States – and most operators involved in accidents have had no boating safety training.

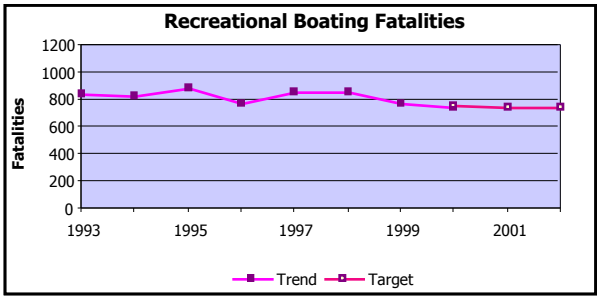
Performance measure: Number of recreational boating fatalities. (Calendar Year)

	1999	2000	2001	2002
Target:	763	763	749	742
Actual:	778(r)	742#		

 # Preliminary estimate

(r) Revised

External Factors: A growing U.S. population and a growing U.S. economy leads to growth in the number of recreational boats. Success of DOT efforts is, in part, dependent on the effectiveness of many individual state-run education and enforcement programs. Also, boater behavior is often difficult to influence – for example, boaters tend not to wear life jackets, ignoring the risks associated with the nature of their boating activity.



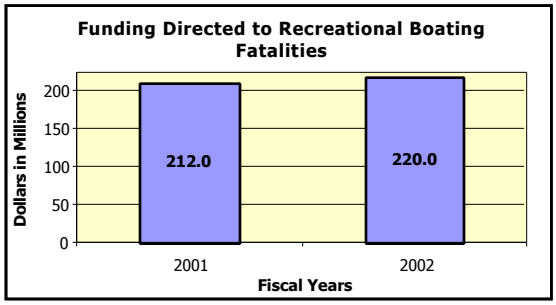
2000 Results: The preliminary estimate reveals that DOT met the performance target -- recreational boating fatalities declined to an estimated 742 -- the lowest number of fatalities reported to date. As noted in Appendix I, actual and estimated performance and performance targets have been adjusted because of systematic undercounting of boating fatalities. This was noted in DOT's FY 2001 Performance Plan and in the DOT IG's April 2000 report on this performance measure. The Coast Guard is working with States to address the undercount problem.

While the recent trend in boating fatalities has been mixed, fatalities have declined dramatically since the early 1960s and 70s. Today, there are fewer than half the number of recreational boating fatalities than there were in the early 1970s. At the same time, the number of recreational boats has more than doubled. This long-term reduction in fatalities is due to cooperative boating safety education and enforcement efforts, safer boats and equipment manufactured in accordance with Coast Guard standards, and life jacket use. Still, too many fatalities occur each year – mostly as a result of accidents involving operator-controllable factors.

More than half of all recreational boating fatalities are the result of capsizing or falls overboard -- and the percent of victims who drown is approximately 70%. The majority of these drowning victims were not wearing life jackets. Accident prevention is the best way to reduce fatalities – but when accidents do occur, boaters have a vastly improved chance of surviving if they are wearing a life jacket.

FY 2001 Performance Plan Evaluation: DOT expects to meet this year's performance target. The Coast Guard will continue to assist State boating safety programs; conduct safety education campaigns; and encourage boater education programs that incorporate the National Association of State Boating Law Administrators National Boating Education Standards, with the primary focus on improving boater skills to reduce accidents. The Coast Guard will also continue a research effort to improve life jacket comfort and wearability, thus promoting greater usage.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT aims to reduce boating fatalities by developing and enforcing compliance with safety standards for recreational boats and equipment; promoting lifejacket wear; improving boater skills and knowledge; increasing enforcement of boating-

under-the-influence statutes; and conducting vessel safety checks and boating education courses to promote safe operation and use of safety equipment.

- Boating Safety Grants to States will provide funds to States to support education, outreach, and law enforcement ($59 million).

- The Coast Guard Auxiliary will continue to conduct vessel safety checks of recreational boats in cooperation with the U.S. Power Squadrons and the States, and to provide boats and aircraft to assist with maritime search and rescue.

- The Coast Guard Recreational Boating Safety program will continue to develop safety regulations in cooperation with manufacturers and standards organizations, investigate consumer complaints of non-compliance with standards, and monitor manufacturers' equipment recalls.

- The national boating safety study being commissioned by the Coast Guard will provide valid and reliable information on boating practices, safety, and exposure. This information will enable safety officials to assess boating risk, implement appropriate safety intervention strategies, and measure the effectiveness of program activities in reducing the risk and negative outcomes associated with the use of recreational boats. Data collection will commence in the fall of 2001.

Other Federal Programs with Common Outcomes: The U.S. Army Corps of Engineers and the National Park Service manage many recreational lakes that are used by boaters, and cooperate with the Coast Guard and States in managing safe boating programs.

MARINER RESCUE: The number of recreational and commercial marine users continues to increase as more Americans move to coastal areas and global trade grows. Operating in a remote, unforgiving environment, many mariners lose their lives, many more are injured, and billions of dollars of property are at risk. In 2000, the Coast Guard responded to 40,068 calls for assistance, and saved 3,365 lives. DOT seeks to save more lives in peril from the sea.

Performance Measure: Percent of all mariners in imminent danger who are rescued.

	1999	2000	2001	2002
Target:	N/A	N/A	85%	85%
Actual:	87.5%(r)	82.7%		

Discontinued Performance Measure: Percent of mariners reported in imminent danger who are rescued.

	1999	2000	2001	2002
Target:	93%	93%	*	*
Actual:	95.4%(r)	93.4%		

Discontinued Performance Measure: Percent of property reported in imminent danger saved.

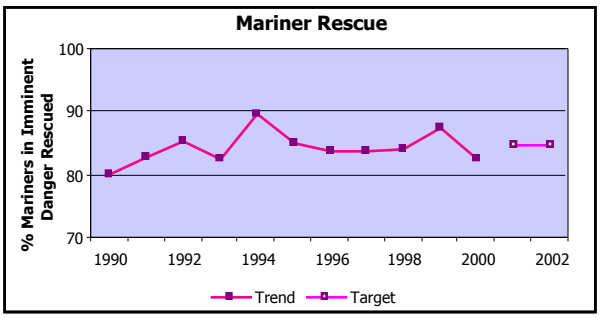
	1999	2000	2001	2002
Target:	N/A	80%	*	*
Actual:	79.5%(r)	63.8%		

(r) Revised

** Measure was discontinued in the DOT FY 2001 Performance Plan.*

Note on the data: The Coast Guard has upgraded the database that captures search and rescue data. See data details for a discussion.

External Factors: Several factors compound the difficulty of successful response: untimely notification of distress to the Coast Guard, incorrect reporting of the distress site location, severe weather conditions at the distress site, distance to the scene, etc.



2000 Results: DOT met the performance target for mariners rescued but did not meet the target for property saved.

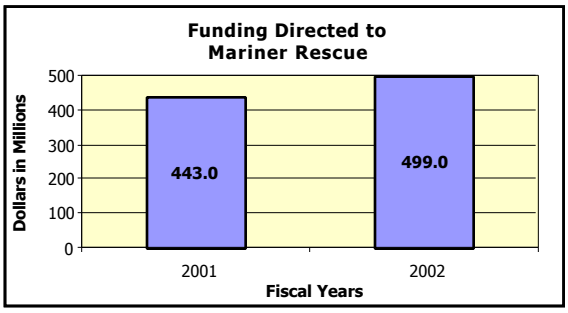
While Coast Guard's ability to save the lives of mariners able to report their distress remains relatively constant, Coast Guard is concerned about the drop in the percent of all mariners saved. The 2000 result is the lowest seen since 1993.

Historically, the majority of search and rescue cases involve recreational boats, commercial fishing vessels, and "people only" (swimmers, divers, etc.) These cases also make up the majority of lives lost.

The Coast Guard was not able to maintain the percentage of property saved due to variations in the severity of search and rescue cases, and the severity of environmental conditions when rescue units got to the distress scene.

FY 2001 Performance Plan Evaluation: Saving lives is the top priority of DOT and the Coast Guard. Achieving the performance target remains within reach.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



While there will always be some number of lives the Coast Guard will not be able to save due to the severity, location, or circumstances of the distress, there are improvements that can be made. The National Distress and Response System (NDRS), Coast Guard's maritime emergency radio network, will be modernized (to be completed in 2005) to eliminate the more than 65 existing communications gaps, and to add direction finding and immediate recorded voice playback and enhancement capability. NDRS's direction finding capabili-

ty will reduce the amount of time expended on hoaxes and false alarms – 25 percent of all search and rescue time.

Coast Guard aims to save as many lives and as much property as possible by operating fleets of cutters and aircraft, and rescue stations; using search sensors and search planning tools and tactics; and requiring (by regulation) mariners to use survival gear, distress notification, alerting, and locating equipment. In 2002, initiatives include:

- continue modernizing the NDRS and the Global Maritime Distress and Safety System medium and high frequency Digital Selective Calling Alert Processing System ($44.2 million);
- increase staffing and training at rescue stations and command centers, addressing urgent shortfalls identified by the National Transportation Safety Board ($5.5 million);
- recapitalize Command Centers, and modernize command and control communication capabilities in Hawaii and the Pacific northwest ($6 million);
- bring on line new Coastal Patrol Boats and motor lifeboats ($8.4 million); and
- acquire new commercial satellite communications, operate new satellite-based Self Locating Data Marker Buoys, and commercial satellite communications channels ($3.2 million).

Other Federal Programs with Common Outcomes: The U.S. Navy and Air Force have search and rescue capability, primarily for their own vessels and aircraft. The National Search and Rescue Manual establishes responsibilities and cooperative efforts between organizations that have search and rescue capabilities. The Air Force is the lead agency for land-based search and rescue; the Coast Guard is the lead for maritime search and rescue. Each assists the other depending on resources available for a particular search effort. Information is shared through formal search and rescue schools, and at search and rescue conferences and forums held worldwide. The Air National Guard also provides search and rescue capability.

Management Challenge – National Distress Response System (IG)

The IG has stated that funding for the Coast Guard's National Distress and Response System could be at risk in a limited capital acquisition budget. Deficiencies in the Distress and Response System have existed for at least 10 years, and the National Transportation Safety Board has criticized Coast Guard's interim fixes as insufficient. The major task for Coast Guard is to present a specific system modernization plan that details what assets need to be acquired or modernized, how it will be done, what it will cost, and when funding will be needed. (For a discussion of DOT plans, see the Management Challenge box regarding the Coast Guard Capital Acquisition Budget on the Drug Interdiction goal page.)

PASSENGER VESSEL FATALITIES:

Passengers aboard the approximately 6,200 domestic passenger vessels and 130 foreign-flag passenger vessels operating from U.S. ports are exposed to a variety of hazards. On Lake Hamilton, Arkansas, in May 1999, the amphibious passenger vessel *MISS MAJESTIC* capsized, and 13 of the 21 passengers lost their lives - illustrating the potential risk that exists. DOT seeks to minimize risks that could result in fatalities for passengers and crewmembers in marine transportation.

Performance measure: Fatalities aboard passenger vessels.

	1999	2000	2001	2002
Target:	N/A	N/A	22	19
Actual:	29	15#		

 # Preliminary estimate.

Discontinued performance measure: Number of high-risk passenger vessel casualties per 1,000 vessels.

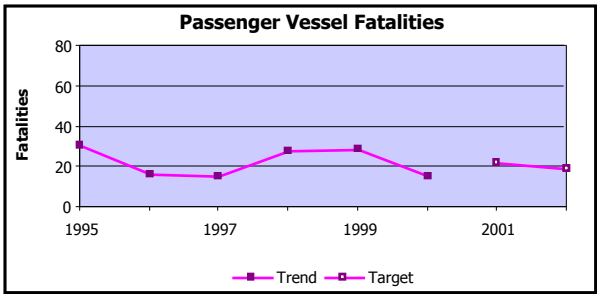
	1999	2000	2001	2002
Target:	N/A	53	*	*
Actual:	45(r)	41#		

 # Preliminary estimate

(r) Revised

** Measure was discontinued in the DOT FY 2001 Performance Plan.*

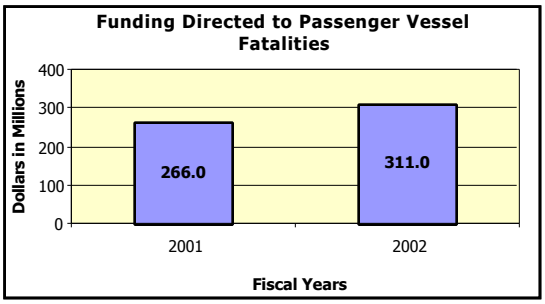
External Factors: As newer passenger vessels are put into use with much higher capacities and speeds, the risk exposure rises as well. Future passenger industry growth will increase waterway congestion on U.S. waterways. Passenger vessels transport people who are often unfamiliar with the vessel's safety practices as well as ways to exercise caution aboard a ship in order to avoid a life-threatening situation.



2000 Results: DOT met the performance target for the measure still in effect for last year. For the new measure, there were an estimated 15 fatalities in the passenger vessel fleet. There has been a slight decline in fatalities since 1995, but there is some variation from year to year. Compared to other modes of transportation, the safety record of passenger vessels operating from U.S. ports, including both domestic and foreign vessels, is excellent, and DOT aims to keep it that way.

FY 2001 Performance Plan Evaluation: DOT expects to meet its target for reducing fatalities aboard passenger vessels. However, one major incident could cause significant variance in the results.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The Coast Guard's approach to passenger vessel safety improvement and risk reduction focuses on maximizing prevention while seeking innovative means of responding to a major passenger vessel casualty. There has been a general reduction in fatalities due in part to the collaborative Prevention Through People (PTP) initiative. PTP promotes awareness of safety risks and works to reduce the sizable role human error plays in fatalities.

Areas of emphasis in 2002 include:

- Human-factor prevention programs for foreign and domestic vessels.
- Exercising and enhancing contingency plans to respond to major passenger vessel accidents.
- Establishing the International Maritime Information System to collect voluntary information about "near-miss" maritime accidents.
- Creating quality incentive programs for near-term improvement in prevention and response while the need for new standards is studied.

- Integrating risk-based decision making into program designs to reduce vessel accident risks.

Other Federal Programs with Common Outcomes: The Coast Guard coordinates with OSHA in developing vessel health standards that reduce the risk of accidents. The Coast Guard investigates all reportable marine accidents. The Service also works with the National Transportation Safety Board (NTSB) to investigate major maritime accidents, and both use the investigation results to develop better safety strategies. The Coast Guard works with the International Maritime Organization to improve the level of safety standards on a worldwide basis.

RAIL FATALITY RATE: In 2000 there were 928 deaths attributable to rail operations. Approximately 50% of the fatalities were trespasser-related, and more than 40% occurred at highway-rail grade crossings. Employee casualties dropped 5% for the year. To reduce rail fatalities, FRA is forging safety partnerships with the rail industry, strengthening educational outreach, and rigorously emphasizing compliance with safety standards.

Performance measure: Rail-related fatalities per million train-miles.

	1999	2000	2001	2002
Target:	1.57	1.30	1.23	1.20
Actual:	1.31(r)	1.29#		

(r) Revised

 # Preliminary estimate

Discontinued performance measure: Train accidents per million train-miles.

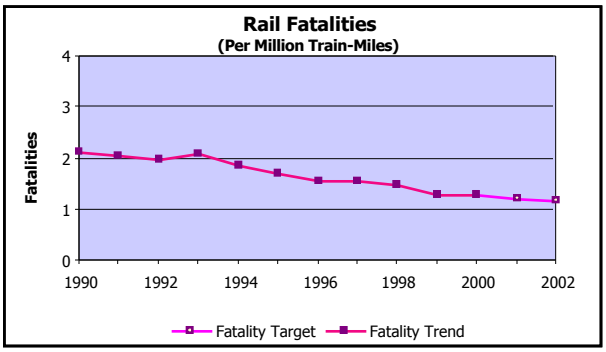
	1999	2000	2001	2002
Target:	3.44	3.38	*	*
Actual:	3.89(r)	4.01#		

 # Preliminary estimate

** Measure was discontinued in the DOT FY 2001 Revised Final Performance Plan.*

(r) Revised

External Factors: Trespasser-related deaths occur on private property, with approximately 77% of them taking place on the five largest railroads. Additionally, railroad train-miles have grown continuously each year since 1991. Human factors, such as employee fatigue, play a role in determining whether the rail environment is a safe one. All three factors indirectly affect the fatality rate.



2000 Results: Preliminary data reveals that DOT met the target for rail-related fatalities, but missed the accident target.

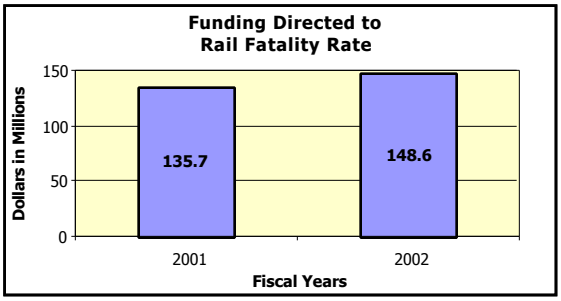
Although the number of deaths was slightly lower in 2000 vs. 1999 (928 vs. 932), the number of annual train-miles increased, almost 1.2%. This means that fewer people died in the rail environment per mile since FRA began collecting data.

FRA conducted outreach programs to various audiences, with special emphasis on the motor carrier, law enforcement, and judicial communities. The primary focus of trespassing prevention efforts was the conduct of public education and awareness programs. FRA also worked closely with Operation Lifesaver, Inc., to develop new print, audio, and video public-service announcements for mass media distribution. Under FRA's Safety Assurance and Compliance Program (SACP), staff worked with the major railroads to identify and solve some of the root causes of systemic problems facing the railroads. Additionally, teams comprised of industry and labor representatives were formed to conduct detailed analyses of each rail employee fatality, resulting in The Switching Operations Fatality Analysis (SOFA).

FRA took important steps to improve the rail accident rate. Recognizing that a significant number of accidents occurred in rail yards and during switching operations, FRA formed a task force with representatives from rail labor and management to analyze the causes of these accidents and to develop common sense, effective solutions. It is still too early to determine the long-term effectiveness of this program, given that preliminary data show a small increase in yard accidents.

FY 2001 Performance Plan Evaluation: DOT will be challenged to meet the rail fatality rate target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In 2002, FRA will:

- Add 26 positions which will directly or indirectly support DOT's initiatives to reduce rail fatalities and accidents. ($1.6 million)

- Support studies and environmental impact assessments for new technologies in rulemakings such as Positive Train Control. Expediting the approval and implementation of rulemakings will help improve rail safety operations and reduce or improve factors related to rail fatalities and accidents. ($.945 M)

- Start or expand safety-related Research and Development projects, and address factors causing train fatalities and accidents. ($3M)

Other Federal Programs with Common Outcomes: None.

Management Challenge – Rail Safety (IG)

I. According to the IG, a significant safety need shared by Amtrak and the commuter railroads serving Penn Station-New York is the $898 million fire and life safety program necessary to bring the rail tunnels up to acceptable standards. For example, several of the current evacuation routes include narrow 10-flight spiral staircases that simultaneously serve as entranceways for emergency workers.

Amtrak, the Long Island Railroad and New Jersey Transit have developed a revised spending plan and timeline to reflect an accelerated schedule to complete life-safety improvements in the tunnels by 2010. However, this schedule is dependent on significantly higher annual investments by the railroads.

DOT will work with Amtrak, the Long Island Railroad and New Jersey Transit on an ongoing basis to help ensure that sufficient resources are devoted to this critical safety project.

II. Also related to railroad safety, Representative Oberstar requested the Office of Inspector General to review the full range of safety-related data gathered by the Federal Railroad Administration (FRA). The IG explained that historically, FRA has relied almost entirely on individual inspectors to subjectively select the location and frequency of site inspections, reflecting inspector priorities, personal knowledge, and experience. While site inspections are but one element of FRA's safety inspection strategy, FRA management and inspectors could make greater use of prior inspection data contained in the inspection database for planning purposes, such as selecting inspection sites and coordinating inspections.

FRA recognizes the IG's concerns regarding the safety inspection strategy and has issued agency guidelines to address this issue. These guidelines set forth specific areas that must be inspected by safety personnel on a regular basis.

III. The IG found positive attributes in FRA's close partnerships with railroads under the Safety Assurance and Compliance Program (SACP) for identifying safety-related deficiencies, but also found shortfalls in follow-up and enforcement of identified safety deficiencies such as widespread track defects. The IG found that after 5 years of experience with the SACP program, it is time to assess its long-term costs and benefits. A reduction in railroad-related fatalities has been achieved, but nationwide train accidents have increased during the past 3 years, and FRA has not met its accident and injuries goals. Specifically, the SACP identified deficiencies in CSX Transportation (CSXT) track but was not effective in ensuring that corrections were made. The rate of CSXT track-related accidents more than doubled from 1995 to 1999, even though the railroad implemented a Safety Action Plan in 1997. This is particularly problematic because Amtrak uses CSXT track for some of its passenger service.

FRA has addressed these concerns with enforcement actions, an emergency order and a compliance agreement. Enforcement actions resulted in collection of over $4 million in safety fines. FRA has issued an emergency order concerning an unsafe railroad bridge in Oregon, and entered into compliance agreements to resolve long-term track safety issues.

TRANSIT FATALITY AND INJURY RATES: Public transit provides a flexible alternative to automobile and highway travel, offering a higher degree of safety as well. Public expectations for safety are much higher for transit than they are for highway travel. DOT seeks continuous reductions in transit fatalities and injuries.

Performance measure: Transit fatalities per 100 million passenger-miles traveled.

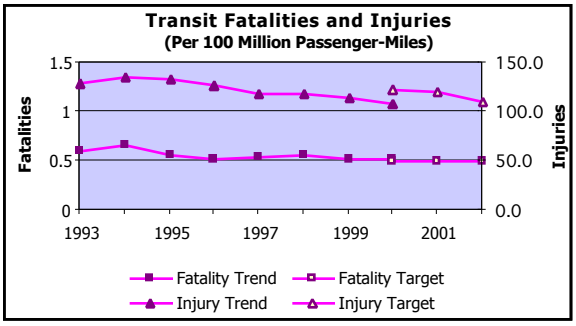
	1999	2000	2001	2002
Target:	.507	.502	.497	.492
Actual:	.530(r)	.519		

Performance Measure: Transit injured persons per 100 million passenger-miles traveled.

	1999	2000	2001	2002
Target:	123.2	121.9	120.7	109.4
Actual:	114.9(r)	107.5		

(r) Revised

External Factors: As the population grows, the use of public transit can also be expected to increase.



2000 Results: Although DOT did not meet the fatality rate target, the fatality rate decreased substantially from last year in the midst of an increase in ridership. DOT met the injury rate target.

Through FTA, the Transportation Safety Institute offered 25 different safety courses at 118 training sessions throughout the United States. The 51,096 student hours completed by 3,083 transit personnel indicate industry acceptance of the program. There were also 190 Bus Operator Training course offerings, consisting of 31,543 student hours completed by 3,945 personnel.

Five State safety oversight audits were performed in Maryland, Louisiana, Massachusetts, New Jersey, and Illinois. The Tri-State Oversight Committee (the oversight agency for the Washington D.C. Metropolitan Area Transit Authority) was also audited.

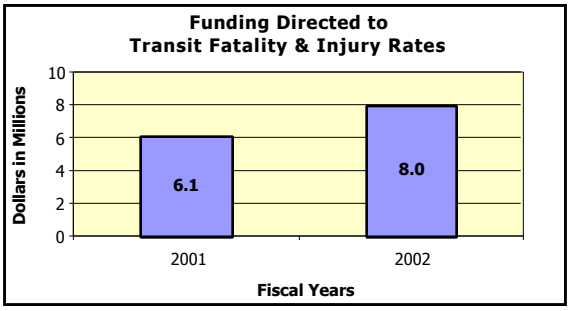
Since 1996, the percent of positive random drug and alcohol test results have declined by 33 percent and 44 percent, respectively. In light of the drop in positive tests for alcohol, the required alcohol testing rate has been revised to 10 percent; however, the drug random testing rate is being continued at 50 percent.

Twenty-six voluntary security audits were conducted at rail/bus systems throughout the country and 33 security audits were conducted at bus-only systems. The audit program is advisory only. However, most systems have acknowledged the technical expertise of FTA's audit consultants and have adopted the recommendations resulting from the audit.

The major causes of transit fatalities/injuries are being investigated in the Transit Accident Causal Factors Study. Rail transit systems that share tracks with freight railroads pose significant safety issues, since a collision between a rail transit vehicle and a freight train has potentially catastrophic consequences. To heighten awareness of safety issues, FTA and FRA have jointly conducted outreach to grantees and the American Public Transit Association on shared use of the general rail system. Additionally, to ensure better safety awareness, FTA is developing planning guidance for local governments' planning agencies and assisting in negotiations with owner railroads for proposed shared track and shared corridor rail transit projects.

FY 2001 Performance Plan Evaluation: DOT does not expect to meet its transit fatality rate performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Through Formula Grants, Capital Investment

Grants, and the Job Access and Reverse Commute Program, FTA invests in the public transit infrastructure. Most of these funds improve transit safety by replacing older bus and rail systems with newer, safer public transit. For new projects, safety is a design consideration from the beginning. FTA works with States, local transit authorities, and the transit industry to develop technology, provide training, and supply technical assistance that advances safety. FTA also conducts research and collects data in order to provide valuable information on safety and standards.

The Safety and Security Program provides $8 million in FY 2002, 31% above FY 2001. In addition, FTA will:

- develop technology and system designs that will improve the security of the riding public. Activities will include using information technology to improve highway-rail interactions and implement Safety Task Force recommendations.

- train 4,000 transit professionals on a wide variety of topics such as system security, bus and rail accident investigation, and fatigue awareness.

- provide technical assistance to States and local agencies to improve the safety and security of public transit. Activities will include guidance on the safety certification process; technical assistance on emergency management, including natural disasters and terrorist attacks; and evaluation of State safety oversight programs.

While TEA-21 required States to establish safety oversight programs for transit systems that operate rail fixed guideway systems, the legislation did not contain a provision for Federal assistance to affected States. FTA is proposing that, starting in FY 2002, funds made available to States for capital projects may be used for State rail safety oversight activities.

Other Federal Programs with Common Outcomes: None.

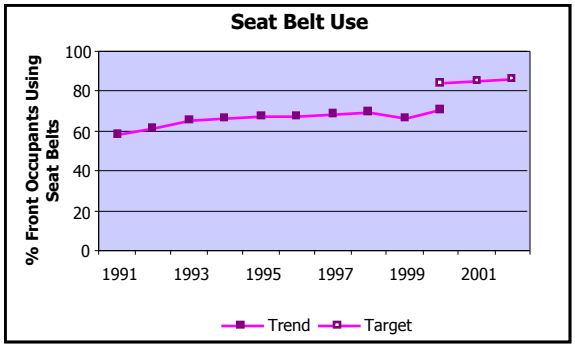
SEAT BELT USE: According to a survey conducted by NHTSA in June 2000, nearly 30 percent of Americans (or about 85 million people) still do not use seat belts when driving or riding in motor vehicles. Seat belts save an estimated 10,000 lives each year. If seat belt use nationwide were to increase to 90 percent, an additional 5,500 deaths and 121,000 injuries could be avoided each year, saving $8.8 billion annually. DOT's goal is to increase seat belt usage to 90 percent by 2005.

Performance measure: Percentage of front occupants using seat belts.

	1999	2000	2001	2002
Target:	80%	85%	86%	87%
Actual:	67%(r)	71%		

(r) Revised

External Factors: Beginning in 1991, and increasingly every year thereafter, DOT and its partners have succeeded in convincing the majority of the population to buckle up. However, the behavior of the remaining part-time seat belt users and non-users will be more difficult to change.



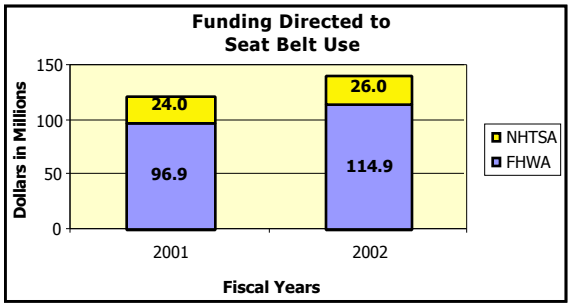
2000 Results: DOT did not meet the performance target, although this year's 71 percent rate is the highest in our Nation's history. The child passenger restraint rate has also risen dramatically over the past few years as child passenger fatalities continue to decline. In just two years, restraint use for children ages 0-15 years of age has climbed from 65 to 75 percent. The increase in restraint use among toddlers (1-4 years of age) has been even more dramatic: 60 to 87 percent.

In 2000, NHTSA provided information and technical assistance to support the efforts of States and national organizations to strengthen State laws regarding seat belt and child restraint use. By the end of 2000, 17 states plus Puerto Rico, Washington, D.C., American Samoa, Guam, the Marianas, and the Virgin Islands had enacted primary (or standard) belt laws. An additional 32 States have secondary belt laws. New Hampshire has no adult seat belt law. Our analysis of this year's data leads us to the conclusion that overall shoulder belt use in States with standard (primary) seat belt laws was 77 percent compared to 63 percent in States without standard enforcement laws.

In 2000, NHTSA published *The Child Restraint Systems Safety Plan*, which outlined more than 30 new or ongoing agency activities to improve motor vehicle safety for children from infancy through age 10. The plan focuses on two major strategies: encouraging the correct use of safety seats that afford optimal protection and providing useful consumer information on child passenger safety. The plan further proposes that NHTSA add safety seats to vehicles that are crash tested through its New Car Assessment Program (NCAP); develop a 10-year-old child dummy to better evaluate the performance of booster seats designed for larger children; review test procedures for NHTSA's standard on child safety seats; publish a "best practices" guide for organizations planning to establish safety seat fitting stations; and provide additional consumer information on the features and proper use of safety seats.

FY 2001 Performance Plan Evaluation: It is unlikely that DOT will meet its performance target this year. NHTSA plans to continue its two-pronged approach to reach the 2005 goal: (1) expand the scope of the *Buckle Up America (BUA)* campaign in all 50 States; and (2) focus on several specific opportunities for increasing belt use, e.g., States likely to pass primary enforcement of seat belt use laws. A key component of increasing the seat belt use rate is strong enforcement of seat belt laws. NHTSA will continue its strong partnership with the law enforcement community. In addition, NHTSA will continue to work with industry to introduce new technologies that will encourage more people to buckle up. The success of these initiatives will be evaluated in September 2001 to determine if further adjustments need to be made.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Diverse Groups: In 2002, NHTSA will conduct new outreach efforts to encourage the 29 percent of the population who still do not buckle up to do so. This will focus on African Americans, Hispanics, rural populations, and teens -- populations that have traditionally had lower-than-average seat belt use rates.

Grants: In addition to focusing on particular population groupings, NHTSA will provide funds to States in the form of grants to increase seat belt use rates. The Transportation Equity Act for the 21st Century (TEA-21) provides for more than $1.2 billion in incentive grants to increase seat belt use and prevent alcohol-impaired driving. The amount of each State grant is based on savings in medical costs to the Federal Government from increased seat belt use. The award amounts range from $18,800 to $15.8 million.

In FY 2002, $112 million is available from FHWA for incentive and innovative grants to increase seat belt use; an additional $15 million is available from NHTSA to States that implement stringent occupant protection laws and programs.

Law Enforcement: NHTSA will continue its support of the biannual *Operation ABC (America Buckles Up Children) Mobilizations*. This effort is a nationally coordinated event by law enforcement to protect children from the lack of child restraint use. The approach is simple: conduct weeklong waves of increased law enforcement activities in May and November, during the peak holiday travel periods of Memorial Day and Thanksgiving. The *Mobilization* is based on a highly effective law enforcement model that combines periodic waves of stepped-up enforcement with aggressive publicity highlighting the enforcement. The number of law enforcement agencies supporting this effort has also grown dramatically: from 1,000 agencies in 1997 to over 10,000 agencies during the November 2000 *Mobilization*.

LATCH: The Federal Motor Vehicle Safety Standard (FMVSS) 225 promulgated by NHTSA, called for a universal child safety seat installation system that would make child safety seats easier to install. This new system is known as LATCH (Lower Anchors and Tethers for Children). Anchorage points in vehicles will facilitate the attachment of child safety seats to the rear seating area of vehicles, resulting in a tighter, more secure fit that will better protect a child during a crash. Manufacturers of child safety seats will, in turn, equip child safety seats with adjustable tether straps on the top of the seat that will attach to the anchorage points in the vehicles. Phase I of the LATCH program began in 1999. Phase II of the LATCH program will require lower anchorages in the base of rear vehicle seats to be installed in all cars, minivans, and light trucks by September 1, 2002. Child safety seats can then be attached or snapped into vehicles instead of being held secure by the vehicles seat belt system.

Other Federal Programs with Common Outcomes: NHTSA will continue to work with a large number of Federal agencies to ensure that the goals of the *Buckle Up America* campaign are met. NHTSA has also partnered with over 15 other Federal agencies and branches of the Armed Forces to increase seat belt and child safety seat use. In addition, NHTSA works with the Department of Health and Human Services through the *Healthy People 2010* initiatives to promote seat belt and child safety seat use.

AIR CARRIER FATAL ACCIDENT RATE: Commercial aviation is one of the safest forms of transportation. But when passengers board an airplane, they give up personal control and face an unfamiliar risk. While fairly rare, aviation accidents can have catastrophic consequences, with large loss of life. The public demands a high standard of safety, and expects continued improvement. DOT's goal is an 80 percent reduction in the U.S. commercial air carrier fatal accident rate by 2007.

Performance measure: Fatal aviation accidents (U.S. commercial air carriers) per 100,000 departures. See note on data.

	1999	2000	2001	2002
Target:	.048*	.045*	.043	.038
Actual:	.059	.033#		

** These are equivalent to the CY targets per 100,000 activities.*

 # Preliminary estimate

Discontinued performance measure: Fatal aviation accidents (U.S. commercial air carriers) per 100,000 flight hours.

	1999	2000	2001	2002
Target:	.034	.033	*	*
Actual:	.039(r)	.022#		

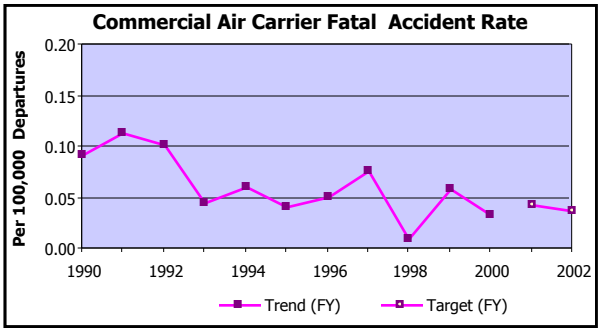
 # Preliminary estimate

** Measure discontinued in the DOT FY 2001 Revised Final Performance Plan.*

(r) Revised

Note on Data: Prior to FY 2001, the measure was based on flight hours and calendar years. From FY 2001 onward, the measure is based on departures and fiscal years.

External Factors: In absolute terms, the fatal accident rate in commercial aviation is very low. One of the primary reasons for this is the use of jet aircraft. Also contributing to a lower accident rate are technological advances in both avionics and radar, and operational procedural improvements.



2000 Results: Based on preliminary data, DOT met the goal: the air carrier fatal accident rate was .022 per 100,000 flight hours and .033 per 100,000 departures.

Under the FAA and industry partnership's Safer Skies Agenda, several critical steps were completed in addressing problems related to controlled flight into terrain and uncontained engine failure. Interventions for controlled flight into terrain included:

- improved training aids for both pilots and air traffic controllers;
- validation of software parameters for Minimum Safe Altitude Warning; and
- a Final Rule related to the manufacture and installation of Terrain Awareness Warning System equipment - a new generation of automated warning systems used on flight decks.

Interventions for uncontained engine failure included:

- additional Airworthiness Directives addressing Low Pressure Turbine engine components and compression priority parts; and
- an Advisory Circular to incorporate an enhanced inspection methodology in the aircraft engine design approval process was opened for public comment.

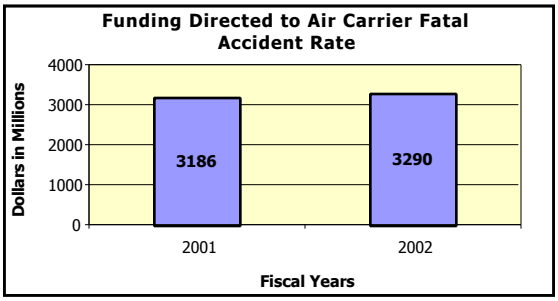
Intervention strategies being developed under Safer Skies rely heavily on historical data. New methods of collecting, analyzing, and using current data are being developed and deployed. The FAA documented a prototype Flight Operations Quality Assurance (FOQA) system that provides maximum potential for the use of digital flight data to determine national trends relevant to the safety of flight operations, aircraft performance, and aircraft maintenance. The FAA's Safety Performance Analysis System (SPAS) continued to be expanded by the addition of new performance measures covering aircraft and engines, rotorcraft, air agency schools, and repair stations. The Air Transportation Oversight System (ATOS) Element Query was also linked to SPAS. SPAS assists FAA in improving its deployment of inspection

resources. ATOS is a systems approach to safety oversight of air transport operators.

FAA continued to sharpen programmatic focus on safety, with inspection and technological resources being concentrated on the highest risk areas. Work continued on aging aircraft and their systems, fuel tank safety, wiring harness and fuselage insulation flammability.

FY 2001 Performance Plan Evaluation: The trend in commercial aviation safety remains on target for the FY 2001 goal; however, variance in year-to-year results should be expected because the occurrence of fatal air carrier accidents is so rare.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



FAA will work with the aviation community and other governmental agencies to identify causal factors of accidents, and intervene accordingly to prevent potential causes of future accidents. In 2002, FAA, in concert with the aviation industry, will:

- continue to implement Safer Skies interventions, and monitor the progress of interventions in the areas of uncontained engine failure, controlled flight into terrain, approach and landing, and loss of control. ($32.1 million, same as 2001)

- continue to enhance and expand the use of ATOS, SPAS, FOQA, and Aviation Safety Action Plan. FAA expects to issue a Final Rule on FOQA in the first quarter of FY 2002. ($35.3 million, same as 2001)

- work on aging aircraft systems, fuel tank safety, and flammability.

FAA's regulation and certification program establishes aviation safety standards, monitors safety performance, conducts aviation safety education and research, issues and maintains aviation certificates and licenses, and manages rulemaking. ($617 million)

FAA's aviation medicine research program works to enhance cabin safety factors and is developing guidelines based on accident research, toxicological findings, and analyses of aeromedical data to help prevent aircraft accidents, injuries, and death. ($6.1 million)

FAA's research in safety technology supports the regulatory program, which sets safety standards for aircraft design and maintenance. Areas studied include fire-resistant materials for cabin interiors, fire detection equipment, inspection and maintenance of aging aircraft, and prevention of engine failures. ($53.2 million)

Other Federal Programs with Common Outcomes: Building upon the Memorandum of Understanding between the FAA and NASA, in FY 2000 the agencies finalized and began implementing the FAA/NASA Integrated Research Plan. The purpose of this plan is to effectively leverage FAA and NASA safety research and development resources to achieve a common goal of an 80 percent fatal aviation accident reduction. The plan specifies how the two agencies will:

- Articulate common goals tying research programs to "real world" outcomes in focus areas, e.g., accident prevention, precursor identification, mitigation and safety risk analysis.

- Consolidate all aviation safety research through analysis of: investment contributions to each focus area by FAA and NASA individually and jointly; investment allocations for commercial and general aviation applications; level of coordination based on shared investment with a view toward combined investment over time; and periodic program review.

- Improve coordination and communication between the agencies outlining the information needs of each agency and specifying organizational points of contact.

- Establish an investment strategy, which coordinates assessments of goal accomplishments and investment plans; synchronize communication based on budget cycles; and integrate planning and implementation actions.

Management Challenge – Commercial and General Aviation Safety (IG/GAO)

The IG and GAO have stated that the FAA must take steps to reverse the trend in known safety risks such as runway incursions and operational errors, strengthen oversight and rulemakings, and manage the aviation safety and air traffic control workforce strategically over the long term. The IG stated that safety must take priority over the impact of increased demand, new technologies and budget cuts. Several safety issues that the FAA needs to address were listed by the IG.

FAA faces many challenges in promoting aviation safety in a dynamic industry. To judge its progress in promoting aviation safety, DOT has done and will plan to do the following:

FY 2000

- Initiated DOT/FAA oversight of U.S. carriers' safety audits of their foreign code-share partners. Guidelines were announced, and FAA began quarterly audits of U.S. carriers' code-share partners in November 2000.

- Continued to implement the Aircraft Safety Act of 2000 that stiffened penalties for trafficking in suspected unapproved parts (SUP). FAA initiated 262 SUP investigation cases and the IG obtained 9 indictments related to the sale and use of SUPs.

- FAA issued over 40 airworthiness directives on electrical wiring and 18 on fuel systems for large commercial aircraft. FAA and industry also conducted inspections of in-service aircraft that are 20 years old or more to assess the condition of the U.S. transport fleet with respect to wiring and to identify other areas of concern.

- Published Flight Operational Quality Assurance (FOQA) NPRM in July 2000.

FY 2001

- To help improve runway safety, the first Airport Movement Area Safety System (AMASS) will be operational (34 airports will have operational AMASS systems by September 2002).

- FAA has begun initial system safety training for Air Transportation Oversight System (ATOS) inspectors.

- FAA will publish a Flight and Duty Time Rule Supplemental NPRM by September 2001.

- As part of a general Departmental effort, FAA will complete a strategic human resource plan for safety and air traffic control personnel, ensuring that workforce training and succession issues are embedded in FAA's strategies and resource plans.

- FAA will publish an NPRM for National Air Tour Safety Standards by September 2001.

- The FAA receives several hundred reports per year relating to SUPs, and has set a standard for assigning an investigation to the responsible field office within 5 days from receipt. Field offices are carrying out these investigations as quickly as possible.

FY 2002

- FAA will determine the feasibility of expanding ATOS beyond currently covered large air carriers to smaller commercial air carriers.

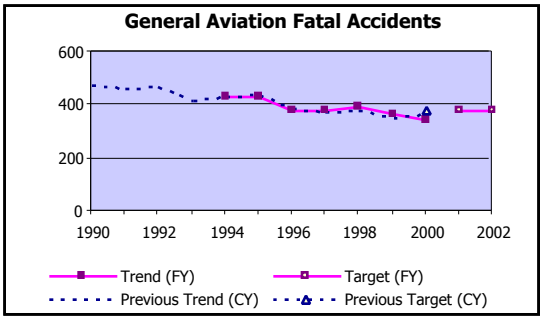
GENERAL AVIATION FATAL ACCIDENTS: Public and corporate aircraft provide a wide range of services – such as crop dusting, fire fighting, law enforcement, news coverage, sight-seeing, industrial work, on-demand air taxi service, and corporate transportation – and privately owned aircraft provide personal transportation and recreation. General Aviation (GA) is an important element of the U.S. transportation system and the U.S. economy, and the majority of aviation fatalities have occurred in this segment of aviation. Since 1988, there has been a gradual trend downward in the number of general aviation accidents, but progress has not been steady. DOT is working with the GA community to achieve further improvements in safety.

Performance Measure: Number of fatal general aviation accidents.

Target:	**1999**	**2000**	**2001**	**2002**
Original	N/A	379	379	N/A (CY)
Revised	N/A	379	379	379 (FY)
Actual:				
Original	354	369#	(CY)	
Revised	364	347#	(FY)	

 # Preliminary estimate

External Factors: General aviation (GA) includes all segments of the aviation industry except commercial air carriers and the military. Aircraft range from single-seat home-built aircraft, to rotary wing craft, balloons, and extended-range turbojets. Levels of risk are highly variable within this aviation segment and regulatory oversight varies considerably. Some elements of general aviation operate in hazardous environments, such as agricultural application, external-load operations, fire fighting, and pipeline/power line patrol.



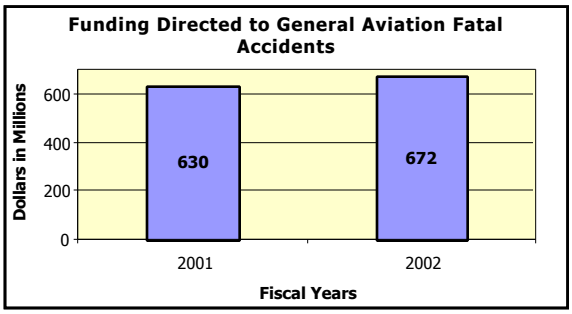
2000 Results: Based on preliminary data, DOT met its target.

The GA community and the FAA jointly developed the annual performance goal. The goal takes into consideration a projected 1.6% per year increase in activity in this sector. With this increase in activity, the number of GA accidents would also increase if there were no further interventions.

Working together, FAA and the general aviation industry have formed a Joint Steering Committee to link safety improvement efforts, focusing in particular on five causal factors, the majority of which are common to commercial aviation – controlled flight into terrain, loss of control, runway incursions, weather, aeronautical decision-making, and survivability. The Committee completed accident and incident data analysis in the categories of controlled flight into terrain and weather, settled on an appropriate set of interventions, and devised and initiated detailed implementation plans. Implementation will continue through FY 2005.

FY 2001 Performance Plan Evaluation: Based on 2000 performance and the continuation of ongoing efforts to reduce general aviation fatalities, DOT expects to meet the 2001 performance goal.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



General aviation is one of the four primary focus areas of the Safer Skies Initiative. The primary strategy for improving GA safety is a collaborative working relationship between the FAA and the GA community to identify problems and implement solutions. Intervention strategies to be completed in 2002 for General Aviation controlled flight into terrain will continue to focus on:

- publishing simplified certification and installation guidance for manufacturers and avionics installers;
- revising the Advisory Circular governing

biennial flight reviews to enhance the awareness of general aviation pilots of controlled flight into terrain; and

- establishing a General Aviation Safety Council to coordinate training and educational programs for general aviation.

For accidents mainly caused by weather, intervention strategies to be completed in 2002 will focus on:

- providing up-to-date weather to the pilot;
- developing model Flight Operation Manuals to assist pilots in assessing weather risks and avoiding or coping with weather hazards;
- encouraging the production and use of operational graphical weather information products that show how and when a flight can be made safely; and
- upgrading FAA equipment that supports safe flight such as the flight service station automation system, automated weather observation systems, and communications systems that provide weather and altimeter settings to pilots.

Other Federal Programs with Common Outcomes: NASA, in partnership with DOT, is conducting general research on aviation safety programs. See the Commercial Aviation Fatal Accident Rate goal for a more detailed discussion of FAA's coordination with NASA on safety research and development.

RUNWAY INCURSIONS: Runway incursions create dangerous situations that can lead to serious accidents. A runway incursion occurs when an aircraft, vehicle, person, or object on the ground creates a collision hazard or results in a loss of separation with an aircraft taking off, intending to take off, landing, or intending to land. Reducing the number of runway incursions will lessen the probability of accidents that potentially involve fatalities, injuries, and significant property damage.

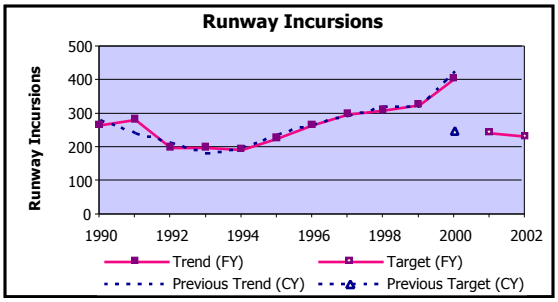
Performance Measure: Number and rate (per 100,000 operations) of runway incursions.

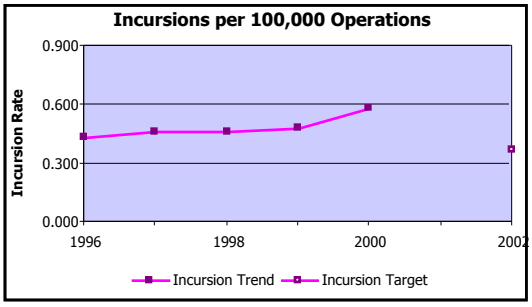
Target:	**1999**	**2000**	**2001**	**2002**
Number:	270	248	N/A	N/A (CY)
	263*	250*	243	236 (FY)
Rate:	N/A	N/A	N/A	.370
Actual:				
Number:	322	429	(CY)	
	330	403	(FY)	
Rate:	.485	.584		

** FY beginning in 2001. These are equivalent to the CY targets.*

Note on data: DOT has changed the data frame to a fiscal year basis in order to facilitate timely performance reporting, and is adding a rate of incursions per 100,000 airport operations to better display the operational context for this measure. Adding a rate does not diminish our focus on eventually eliminating this potential source of aviation fatalities.

External Factors: Increases in airport operations raise the risk of runway incursions. Some of the additional factors that contribute to the complexity of this safety problem are aircraft of different types and capabilities moving in close proximity; weather changes that impact visibility and conceal normal visual cues; unclear signs and surface markings; pilots unfamiliar with an airport; and complex and varied airport geometry.





2000 Results: DOT did not meet the target, and the trend is in the opposite direction from the goal. Runway incursions increased to 429 from 322 in 1999, a 33% increase. Runway incursions fall into three general classifications: operational errors, pilot deviations, and vehicle/pedestrian deviations, with different characteristics and rates of change.

- Total Pilot Deviations, the largest category of runway incursions, increased by more than 38%. Over half the deviations were attributable to communications lapses and pilots' unfamiliarity with airports.

- Total vehicle/pedestrian deviations were up by more than 12%, almost two-thirds of which were due to maintenance, construction, and security or emergency vehicle deviations.

- Operational errors increased by more than 7%, mostly attributable to communications and procedural lapses.

The main causal factors for runway incursions continue to be communications, airport knowledge, and situational awareness when operating on the airport surface. Improved guidelines and incident reporting provisions resulted in increased reporting, and revealed shortcomings in both areas. The FAA appointed a Director of Runway Safety, and broadened the program's approach by creating a comprehensive Runway Safety Program. Using this approach, FAA conducted a series of regional runway Safety Workshops, reaching out to all interested members of the aviation community, and culminating in a Human Factors Symposium, and Runway Safety National Summit. This summit focused on recommendations, actions, and results from regional workshops, the Human Factors Symposium, and other industry-wide activities to improve runway safety.

The FAA published a *National Blueprint for Runway Safety*, containing major action areas. FAA began implementation of the near-term initiatives in October 2000. Regional runway safety managers were selected; a centralized library of training, education and awareness was established; and improved runway marking standards were promulgated. Each area includes initiatives

that may be implemented individually or integrated with other initiatives to provide an effective, comprehensive solution to this important problem. The major areas are:

- Training - Several initiatives are designed to enhance knowledge, skills and overall performance of pilots, controllers, vehicle operators, and other personnel who interact on the airport surface.

- Technology - Establish a Runway Incursion Technical Evaluation team, complete implementation of existing technology (Airport Surface Detection Equipment, Airport Movement Area Safety System, and Airport Surface Detection Equipment - Model X), coordinate runway safety technology initiatives with NASA and the aviation community, and develop innovative implementation strategies to ensure promising runway safety technologies are made available for various airports.

- Communications - Simplify and standardize radio communications within the community to those involved in surface operations.

- Procedures - Segregate ground vehicles from the airport operations area whenever possible, follow-up on perimeter road construction, continue studies on strengthening the Code of Federal Regulations section that requires positive clearance onto runways, and develop and implement national standard operating procedures for tower controllers.

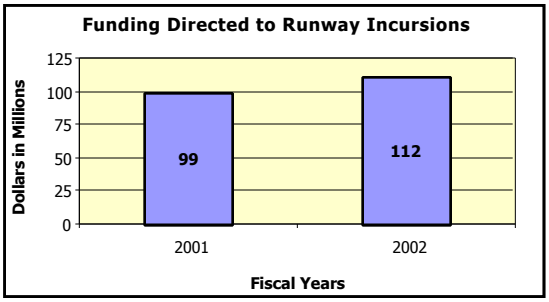
- Airport Signs/Marking/Lighting - Improve the airport environment, increase visibility, enhance safe and efficient movement of aircraft, and test pilot knowledge of airport signs, markings and lighting.

- Data, Analysis, and Metrics - In an effort to better measure how well initiatives are performing, the Runway Safety Office plans to change FAA policy, where necessary, to improve the quality and quantity of data on runway incursions.

Although prevention of all incursions is important, analysis indicates that all runway incursions might not pose the same level of risk. FAA will develop ways of categorizing risk to more effectively focus on root causes, and to more effectively target resources toward the most serious causes. Risk categorization and analysis will also yield better indicators of FAA's effectiveness in improving runway safety.

FY 2001 Performance Plan Evaluation: Reducing runway incursions is a high priority goal, but given our results in 2000, it is unlikely that the runway incursion goal will be met.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Key initiatives underway include:

- Emphasizing situational awareness in air traffic controller on-the-job training courses;

- Establishing a Runway Incursion Technical Evaluation Team which will comprehensively assess all potentially safety-enhancing technologies and products;

- Expanding data link usage for communications between air traffic controllers and pilots;

- Studying whether to require pilots to receive specific clearances for crossing any runway, and whether, absent affirmative clearance, pilots must hold short of the runway;

- Encouraging airports' use of Airport Improvement Program funds for installing and maintaining security fencing, signs, markings, and lighting at all airports; and

- Identifying underlying causes of human error, developing standard human factors investigation and analysis methods for all aviation incidents and accidents, including runway incursions.

In addition, the FAA will:

- Improve and expand the Runway Incursion Action Team process to include a regional focus, increase the number of visits, and obtain the "best practices" from each line of business, NTSB, the Office of Inspector General, and DOD.

- Begin a second round of regional workshops and symposia designed to raise awareness, report on progress, and conduct another national Human Factors Symposium on Runway Safety designed to share lessons learned and identify recommendations to reduce runway incursions.

- Conduct the first International Runway Safety Summit to share lessons learned and to communicate with the aviation community.

- Continue to implement the twenty recommendations of the *National Blueprint for Runway Safety*, which contains a multi-pronged effort of outreach, training for pilots and controllers, better standards and funding for runway signage and markings, and technology for better control of ground movements. ($93.5 million)

Other Federal Programs with Common Outcomes: DOD has developed software, based on radar images, for detection of aircraft and other vehicular movement to reduce runway incursions at military airports. NASA and FAA work cooperatively on aviation safety research and technology development for runway safety and other areas. NTSB works to investigate runway accidents and determine causal factors useful in sharpening FAA's safety program design.

Management Challenge – Runway Safety (IG)

Despite significant management focus, FAA has been unable to reverse the upward trend in runway incursions. The IG has indicated that reversing the sharp increase in runway incursions is a critical management challenge for DOT. FAA is pursuing a number of initiatives begun in 2000 to solve this problem, and, as the IG states, is identifying and evaluating technologies that can be quickly put to use in high-risk airports.

This goal in its entirety addresses the Inspector General's discussion of runway safety in the recent Management Challenges Report.

AIR TRAFFIC OPERATIONAL ERRORS: One of the fundamental principles of aviation safety is "separation" -- the need to maintain a safe distance from aircraft, terrain, obstructions, and certain airspace not designated for routine air travel. Air traffic controllers employ separation rules and procedures that define separation standards for many different environments where aircraft operate. Pilots flying under visual flight rules operate under a "see and avoid" policy. Pilots using instrument procedures rely on air traffic controllers' instructions to guide them. When the rules and procedures that define separation standards are not applied or followed appropriately by a controller, and separation is less than required, an operational error occurs. DOT seeks to reduce operational errors.

Performance measure: Operational errors per 1 million activities.

Target:	**1999**	**2000**	**2001**	**2002**
Original	.496	.486	.5	.5
Revised	4.96	4.86	5	5
Actual:				
Original	.57	.684		
Revised	5.7	6.84		

Note: After 2001, the scale changed to errors per 1 million activities. The change in the rate scale from 100,000 to one million activities in 2001 does not affect the rate of occurrence.

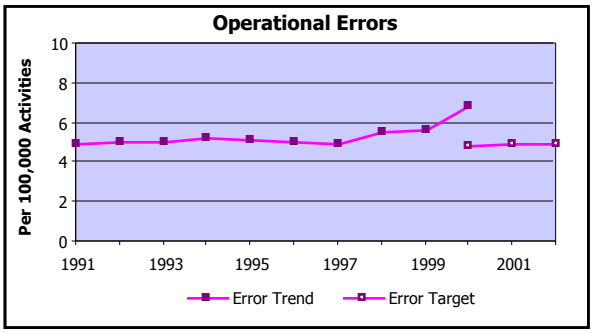
Discontinued performance measure: Deviations per 100,000 activities.

	1999	**2000**	**2001**	**2002**
Target:	.099	.097	*	*
Actual:	.17(r)	.210		

** Measure was discontinued in the DOT FY 2001 Performance Plan.*

(r) Revised

External Factors: The continued increase in the volume of air traffic activity in congested and restricted airspace is a major factor affecting operational errors. From 1999 to 2000, air traffic operations in the top 30 airports increased by 4.3%, compared to a 0.2% increase from 1998 to 1999.



2000 Results: DOT did not meet the target for reducing operational errors. Operational errors totaled 1,145, or 0.684 per 100,000 activities, significantly above the goal of 0.486 per 100,000 activities. Operational deviations, at 352, or 0.210 per 100,000 activities, also missed the goal of 0.097.

FAA continued its effort to improve the procedures, reporting, and correction of operational errors and deviations after instituting a Quality Assurance Review (QAR) process in 1999 to identify and correct controller performance deficiencies through training. The FAA improved its internal procedures, requiring management involvement in controller re-certification following an operational error or deviation.

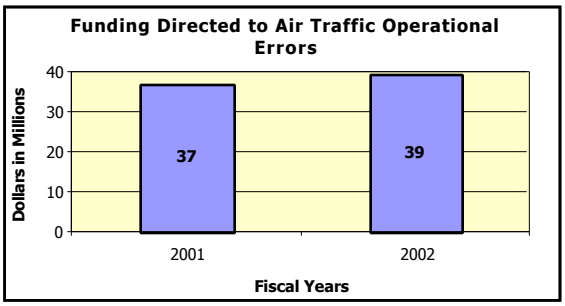
More importantly, safety improvement is emphasized by means of operational error reporting, causal analysis, and problem correction, rather than on using controller error reports as an indication of a failure requiring punitive action. This renewed emphasis on data quality and procedural improvement, and the lessening of punitive measures, has contributed to the increase in reported errors and deviations. This structural change is evident in the increase in the level of monthly operational errors for FY 2000, compared to 1997-1999.

FY 2001 Performance Plan Evaluation: Correcting causes of operational errors while new equipment is introduced, and in the face of increased aviation activity, will make achieving our 2001 target a challenge.

FAA will continue to conduct quarterly safety meetings with regional quality assurance staff managers, in addition to bi-weekly teleconferences. QARs will be used to identify and correct controller performance deficiencies prior to the occurrence of an operational error or deviation. Twenty-five facilities with high or increased numbers of operational errors have been scheduled for Investigative Reviews of Air Traffic services in FY

2001. Following the review, the facilities will be required to develop action plans in an effort to reduce the rate of errors.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



One of the major approaches in reducing the level of operational errors is to provide a common understanding of procedures and policies among controllers and pilots. Training for controllers is central to this approach and will continue to be the focus of FAA's safety strategies in this area. Training will be enhanced by an aggressive identification of operational error causal factors. Technology improvements, such as the deployment of modern displays, new decision support tools, and improved communication systems, will allow controllers to determine aircraft location more effectively, and will reduce miscommunication between pilots and controllers.

The FAA will:

- Investigate the use of the User Request Evaluation Tool (URET), a prototype conflict probe, to provide controllers with more advanced notification of potential in-flight conflicts as a way of reducing operational errors.

- Investigate use of the initial deployment of Controller Pilot Data Link Communications (CPDLC) as a means for improving pilot and controller communications, thereby reducing operational errors caused by miscommunication.

- Address and reduce repeat incidents by individuals through meaningful individual skill enhancement/remedial training. This will be accomplished by better identification of causal factors, and refresher training on procedures for avoiding common types of operational errors.

- Continue to conduct QAR's to identify and correct controller performance deficiencies prior to an occurrence of an operational error or deviation, and resolve performance deficiencies through corrective training.

- With the National Air Traffic Controllers Association, develop and implement a system to classify every operational error based on risk, and take action to train or discipline controllers based on an assessment of the cause and severity of the incident.

The FAA has proposed changing separation standards to reflect the level of risk. Changes to current rules and regulations, and concurrence of the National Transportation Safety Board and other interested parties, are necessary before these new standards can be implemented.

Other Federal Programs with Common Outcomes: None.

Management Challenge – Operational Errors (IG)

The IG has indicated that reversing the sharp increase in operational errors is a critical management challenge for DOT. FAA is approaching the reduction of operational errors with a renewed sense of urgency, amidst increasing aviation activity and increasing airspace and runway congestion.

This goal in its entirety addresses the IG's discussion of operational errors in the recent Management Challenges Report.

HIGHWAY-RAIL GRADE CROSSING ACCIDENTS: In 2000, the rail industry continued its downward trend in the number of grade crossing accidents. There were an estimated 3,441 crossing accidents versus 3,489 in 1999. While this is encouraging news, grade crossing accidents continue to be the second leading cause of rail-related fatalities, exceeded only by trespasser deaths. DOT seeks continual decreases in grade crossing accidents.

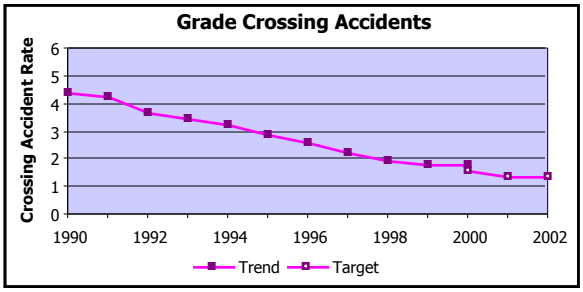
Performance measure: Grade crossing accidents divided by the product of: 1) million train-miles and 2) trillion vehicle-miles traveled.

	1999	2000	2001	2002
Target:	2.19	1.57	1.39	1.39
Actual:	1.83(r)	1.78#		

#Preliminary estimate

(r) Revised

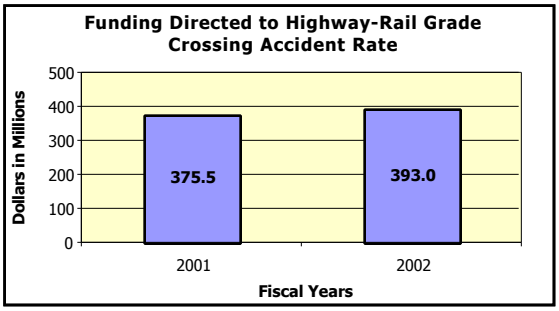
External Factors: U.S. railroad activity has reflected the economic boom of the 1990's, with a rapid expansion in the amount of rail freight and passengers hauled. Since 1990, revenue ton-miles and train-miles have risen almost 40% and 20%, respectively. Additionally, there are approximately 155,000 public and 99,000 private grade crossings nationwide. These factors increase the risk and likelihood of highway-rail grade crossing accidents.



2000 Results: DOT did not meet the performance target. Although there were fewer grade crossing accidents in 2000 than in 1999, train-miles increased and vehicle-miles traveled (VMT) appeared to have plateaued, affecting the rate. In addition, while "public" crossing accidents have fallen 4% from 1999, "private" crossing accidents rose 15%. FRA has limited authority or control over the latter.

FY 2001 Performance Plan Evaluation: DOT anticipates meeting the target this year. FRA has an extensive educational outreach program and will continue to work on multiple fronts to increase safety at crossings.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below**:**



DOT sets and enforces safety standards, investigates major train accidents, and educates the public on the dangers associated with highway-rail crossings. DOT continues to develop both ongoing and new technologies aimed at reducing crossing accidents.

FRA oversees the modification and elimination of grade crossings. Also, FHWA provides Surface Transportation Program (STP) funding to States for highway hazard elimination, including crossing hazard elimination initiatives.

FRA, FHWA and NHTSA will continue to support Operation Lifesaver, a non-profit national organization devoted to preventing and reducing crashes, injuries and fatalities and improving driver performance at the Nation's more than 254,000 public and private highway-rail grade crossings. A key goal of Operation Lifesaver is also the prevention of rail trespassing by raising awareness about the deadly consequences of trespassing on rail property. ($1.025 million)

FRA funding for rail safety is increasing by 9 percent to $154 million. These funds will be used to reduce rail fatalities, highway-rail grade crossing fatalities, and trespasser accidents. FRA will add 26 additional safety positions, four of which will specifically support highway-rail grade crossing activities and trespassing prevention.

Other Federal Programs with Common Outcomes: None.

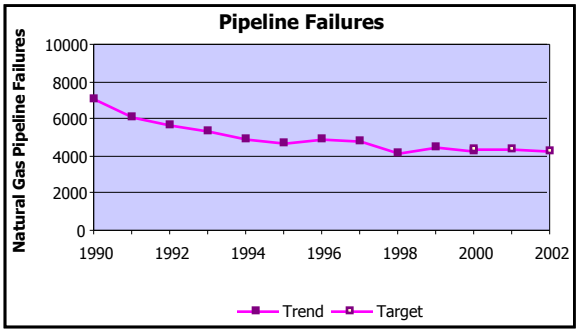
PIPELINE FAILURES: A network of two million miles of pipelines transports natural gas to 60 million residential and commercial customers. While pipelines are among the safest modes for transporting liquids and gases, the nature of the cargo is inherently dangerous. Pipeline failures can pose an immediate threat to people and communities. Corrosion is a leading cause of pipeline failures causing on average 20% of all pipeline failures. Other causes include incorrect operation, construction/material defect, equipment malfunction, failed pipe, and other miscellaneous causes that account for another 41% of pipeline failures. DOT seeks to reduce risks to populated areas and to the environment by ensuring that transmission pipeline owners and operators maintain their pipelines in good condition, and operate them well.

Performance measure: Failures of natural gas transmission pipelines.

	1999	2000	2001	2002
Target:	4,528	4,451	4,375	4,301
Actual:	4,467	4,322#		

 # Projected

External Factors: Long haul transmission pipelines are often in remote locations and underground. Short haul distribution pipelines – typically in neighborhoods – are most susceptible to outside force damage from digging.



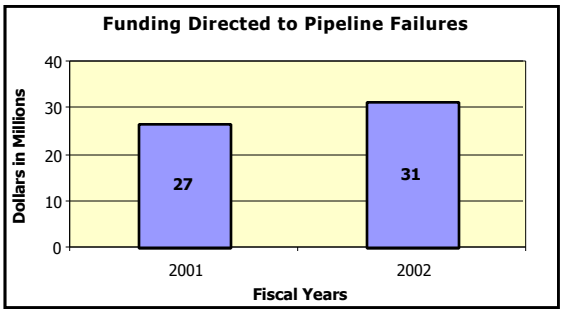
2000 Results: Based on preliminary data, DOT met its pipeline safety performance target; however, we still saw some tragic pipeline failures in 2000. In Carlsbad, New Mexico, a 30-inch natural gas pipeline violently ruptured. The accident resulted in 12 fatalities – the deadliest pipeline accident in the continental United States in almost 25 years.

RSPA has been working closely with the natural gas transmission industry to insure that operators have a staff that is adequately trained and qualified to perform essential maintenance and operational functions, and that operators meet newly established qualification guidelines. RSPA is encouraging industry to monitor corrosion closely, and to inspect pipelines internally where possible for any internal defects or external gouges that may lead to corrosion or pipe seam failure. RSPA is working with industry and the public to provide education about the need for reducing excavation damage hits to pipelines.

RSPA, Battelle Memorial Institute, the Southwest Research Institute, and Iowa State University are working together to determine how in-line inspection technologies may be used for early detection of mechanical damage such as dents, gouges and metal movement, which are precursors to later corrosion failures. The work is progressing and has established that only one survey will be needed to detect corrosion and mechanical damage.

FY 2001 Performance Plan Evaluation: DOT expects to meet its performance target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT works to reduce the risk of pipeline failures by establishing safety regulations and assuring compliance. RSPA's Pipeline Safety program impacts both DOT's Safety and Environmental strategic goals. RSPA believes that safety programs based only on compliance with the regulations can result in a piecemeal approach to identifying and controlling risks, sometimes overlooking the subtle relationships among causes of failure, and the benefits of coordinated risk control activities. Having operators implement systematic and integrated approaches to assure pipeline integrity and address the most important risks offers the greatest opportunity to improve the industry's performance. For this reason, RSPA plans to issue integrity management requirements for pipelines in high consequence areas that include populated areas, commercially navigable waterways, and

locations unusually sensitive to environmental damage that might be impacted by a pipeline failure.

Because natural gas and hazardous liquids have different physical properties and pose different risks, RSPA will implement integrity management requirements for gas and liquid operators in stages, beginning in 2001 with requirements for large hazardous liquid operators.

- Of RSPA's total pipeline safety program ($53.8 million, a 13% increase over the FY 2001 level), $31 million is attributed to efforts to reduce natural gas pipeline failures. This includes integrity assessment, rulemaking, enforcement, research, and information dissemination. Particular focus will be on expanding and improving RSPA's ability to assess the integrity of an operator's system.

- RSPA will continue working with the States to improve the States' ability to participate in the oversight of outside force damage to interstate pipelines within their borders, as well as any other issues of local concern, such as accident investigation and new construction. The mechanism for doing this is a 50% grant match for the costs of that State's oversight. ($19.5 million)

- RSPA will continue implementing public education initiatives by making educational materials available for use by operators, one-call centers and other interested groups; continuing to hold Dig Safely training sessions around the country for groups interested in implementing the program; encouraging participating operators to improve accuracy in locating and marking facilities; and continuing evaluation of one-call system education best practices. ($4 million, a $3 million increase over the FY 2001 level)

- RSPA, through a new initiative, will work to assure that America's communities can live safely with pipelines by accelerating and validating pipeline integrity testing by operators, comprehensively evaluating all pipeline risks, strengthening Federal/State oversight of pipelines, providing community officials with information needed to protect their citizens, and vastly improving the data available to regulators, industry, and communities. ($4.9 million)

- RSPA will develop a curriculum and deliver training to promote compliance with pipeline safety regulations; teach regulatory requirements to industry personnel, particularly small gas system operators; and teach Federal and State inspectors compliance requirements, inspection techniques, and enforcement procedures. ($1.2 million, an 8% increase over the FY 2001 level)

- RSPA will work with the National Association of Pipeline Safety Representatives, trade associations such as the American Petroleum Institute, and other industry partners in designing new reporting systems and improving pipeline safety data.

Other Federal Programs with Common Outcomes: RSPA is moving forward with the National Pipeline Mapping System with input and interest from the Federal Energy Regulatory Commission, the National Oceanic and Atmospheric Administration (NOAA), the Department of Energy, the U.S. Geological Survey, and others. The system will help us analyze risks to environmentally sensitive and populated areas. RSPA participates jointly with the Environmental Protection Agency (EPA), the Department of Agriculture, the Department of Interior and NOAA to collect data on the location of environmentally sensitive areas and is co-funding with EPA, efforts at the National and State levels to populate digital data banks.

Management Challenge – Pipeline Safety (IG/GAO)

The IG and GAO have made recommendations to RSPA intended to improve pipeline safety. These recommendations included: improve pipeline safety standards, strengthen enforcement of pipeline safety laws and regulations, enhance Federal-State partnerships, provide the public better information and opportunities to participate, and support research and development of innovative pipeline safety technologies. To address these concerns, RSPA will:

1: Finalize actions required by the 1992 and 1996 Congressional mandates:

- RSPA is progressing on finalizing actions required by Congressional mandates. RSPA will complete rulemakings that address all mandates by the close of 2002.

2: Expand the focus of RSPA's research and development programs to include: (a) "smart

pigs" that can detect material pipe defects and (b) alternative pipeline inspection and monitoring technologies for pipelines that cannot accommodate "smart pigs".

- In 2001, RSPA is co-funding research on "smart pig" technology to detect excavation-related damage. RSPA is co-funding research on real-time monitoring technologies that detect and prevent construction damage and is funding a study that examines direct assessment of pipelines, including those that cannot be readily pigged. Additionally, RSPA is co-funding airborne leak detection research with the U.S. Air Force. RSPA is also working with DOE and other stakeholders to develop a nationally coordinated pipeline research plan.

3: Design and implement a program to train Office of Pipeline Safety (OPS) inspectors on the use and capabilities of pipeline inspection technologies and the reading and interpreting of inspection results.

- In 2001, RSPA designed and is conducting a pilot training program for Federal and State inspectors on internal inspection technologies and the analysis of data resulting from internal inspections.

- In 2002, RSPA plans to offer a final version of this training program.

4: Revise collection and processing of pipeline accident data to expand accident causal categories for more detailed trend analysis and to clarify accident form instructions so that operators will be more consistent and accurate in reporting accident causes.

- RSPA proposed reporting changes for natural gas transmission pipeline operators that address this challenge. RSPA expects to finalize proposed changes in 2001.

- In 2001, RSPA expects to finalize a rule that would require hazardous liquid pipeline operators to provide better information on causes of failures. Also in 2001, RSPA plans to propose rules requiring hazardous liquid pipeline operators to file an annual report needed to improve trend analyses.

5: Revise Pipeline Safety regulations to establish an enforcement mechanism to ensure operators submit revised accident reports when required.

- In 2001, RSPA is increasing its oversight of accident reporting by operators and will implement revised procedures to examine accident reports submitted by pipeline operators. OPS is implementing a new "open" and "closed" concept for accident reports that will address erroneous and incomplete report information by keeping accident reports "open" until all information is finalized and complete. New tracking procedures will identify which operators are non-compliant. OPS will pursue enforcement action on operators found to be non-compliant with reporting requirements.

HAZARDOUS MATERIALS INCIDENTS: Many of the materials used in manufacturing and many of the retail products people buy include hazardous materials. There are over 800,000 shipments of hazardous materials (hazmat) each day in the United States. These range from flammable materials and explosives to poisons and corrosives. Release of these materials during transportation could result in serious injury or death, or harm to the environment. DOT seeks to reduce public safety risks by minimizing the possibility of hazmat releases in transportation accidents, or of improper hazmat packaging or shipping becoming the cause of transportation accidents, fatalities, or injuries.

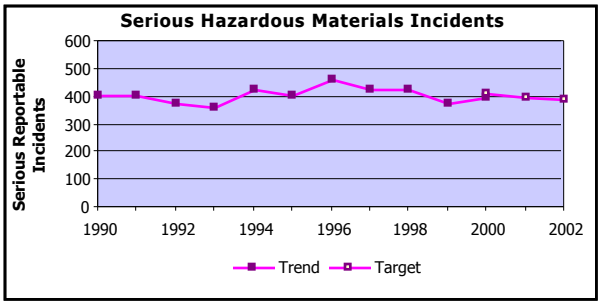
Performance measure: Number of serious hazardous materials incidents in transportation.

	1999	2000	2001	2002
Target:	430	411	401	391
Actual:	377(r)	396#		

(r) Revised

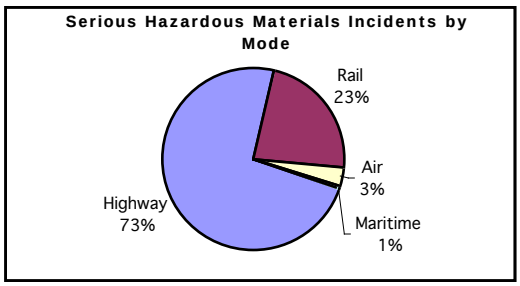
 # Preliminary estimate

External Factors: The vast majority of hazmat transportation incidents are caused by human error.



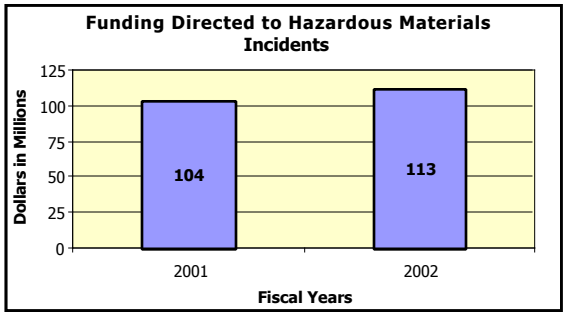
2000 Results: Based upon the preliminary estimate, DOT met its performance target. However, serious hazardous materials incidents increased 5 percent from last year. Highway incidents continue to dominate the overall number of serious hazardous materials incidents, but they decreased from 79% of total serious incidents to 73%. Serious rail incidents increased from 17% to 23% of the total.

Industry appears to be increasingly focused on safety improvements through improved packaging and better operational and response procedures. The drop in package failure incidents may partially reflect that effort, and suggests at least one aspect of system risk reduction.



FY 2001 Performance Plan Evaluation: Given the year-to-year fluctuation observed in this measure, it is difficult to determine whether a firm downward trend has been established. Meeting the target for 2001 appears to be within reach, but given the uptick in incidents, it will be a challenge.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT develops regulations and standards for hazmat packaging and shipping, and enforces those standards for every mode of transportation. DOT will focus more on the human factors involved in hazmat spills. RSPA will work with the industry and State and local partners to prioritize risk factors, permitting better focus of resources on highest risk areas.

- RSPA will conduct more shipper inspections, relative to other types of like inspections of package manufacturers and retesters.

- RSPA will address human errors by implementing an intensive effort to reach the hazmat community through training, technical assistance and customer service to ensure it understands how to comply with Federal safety requirements. RSPA will prioritize compliance initiatives on a risk and human factors basis. RSPA will work with international organizations to promote consistency between national and international hazardous materials requirements to improve the safe and efficient transportation of hazardous materials. ($21 million, 13% increase over FY 2001)

- Coast Guard will continue to enforce hazmat shipping regulations aboard U.S. ships and foreign ships in U.S. ports, as well as at port facilities. USCG, in conjunction with EPA, will continue to manage and operate the 24-hour National Response Center for all reporting of hazardous materials releases.
- FAA will continue its focus on manufacturers, distributors, retailers and reshippers before their cargo reaches airports.
- FMCSA will continue its Compliance Reviews and, when necessary, take enforcement action against motor carriers that pose a greater hazardous materials risk, focusing on incidents/crashes, vehicle and driver violation occurrences, and company safety management breakdowns.

Other Federal Programs with Common Outcomes: In developing regulations for the transportation of hazardous materials, DOT works with the Environmental Protection Agency (EPA); Department of Labor's Occupational Safety and Health Administration; Department of Health and Human Services (HHS); the Treasury Department's Customs Service and Bureau of Alcohol, Tobacco and Firearms; Nuclear Regulatory Commission (NRC); and the Consumer Product Safety Commission.

DOT is also a member of the National Response Team (NRT). The NRT is responsible for coordinating Federal planning, preparedness, and response actions related to oil discharges and hazardous substance releases.

In coordination with the Federal Emergency Management Agency (FEMA), the NRC, the EPA, the Departments of Labor, Energy, and HHS, and the National Institute of Environmental Health Sciences, DOT periodically develops and updates a curriculum consisting of a list of courses necessary to train public sector emergency response and preparedness teams.

Management Challenge – Intermodal Hazardous Materials Safety (IG)

In March 2000, a Final Report on the Department-wide Hazardous Materials Program Evaluation (HMPE) was presented to the Secretary and Congress. The evaluation found that DOT's hazardous materials program is working reasonably well, but that improvements could be made for cross-modal issues. The report recommended a central focal point to administer and deliver a DOT-wide hazardous materials program. The report also made recommendations concerning program delivery issues and data needs, and listed six areas for further analysis.

Based on the findings of the HMPE, the Secretary established the Director, Intermodal Hazardous Materials Program (IHMP) within the Associate Deputy Secretary and Director, Office of Intermodalism. The Director will work with a team comprised of representatives detailed from the five operating administrations involved with hazardous materials safety issues.

The Director for IHMP is responsible for implementing the HMPE recommendations and working with the Bureau of Transportation Statistics to improve data.

This authority was set forth in a Secretarial delegation which authorized the Office of Intermodalism to:

- be the principal adviser to the Secretary on intermodal and cross-modal issues and the focal point to review hazardous materials policies, priorities, and objectives;
- provide oversight for planning and budgeting strategies for all DOT hazardous materials activities;
- resolve disputes among operating administrations of hazardous materials issues;
- externally review and monitor all DOT hazardous materials activities;
- coordinate resource issues with the operating administrations and the Assistant Secretary for Budget and Programs;
- coordinate DOT-wide hazardous materials outreach and data activities; and
- address other regulatory and programmatic intermodal issues related to hazardous materials.

One of the areas identified by the HMPE for further analysis was the need to develop more effective performance measures for the hazardous materials program. The HMPE found that DOT is hampered by the lack of reliable, timely, and accurate information with which to evaluate program effectiveness and on which to base program delivery decisions. As a result, the Department is unable to gauge its effectiveness or accurately assess its impact on achieving hazardous materials safety or develop better approaches to eliminate the causes of most serious hazardous materials incidents.

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Performance Goals - Mobility

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STRATEGIC GOAL: MOBILITY

Shape an accessible, affordable, reliable transportation system for all people, goods, and regions.

Mobility as much as any other factor defines us as a Nation. It connects people with work, school, community services, markets, and other people. The U.S. transportation system carries over 4.6 trillion passenger-miles of travel and 3.9 trillion ton-miles of freight every year – generated by more than 276 million people and 6 million businesses.

DOT's aim is an affordable, reliable and accessible transportation system. One indicator of affordability is the transportation component of the Consumer Price Index (CPI), which tracks the price of a market basket of goods and services purchased by U.S. households over time. Between 1983 and 2000, the CPI for transportation grew less than the overall CPI for urban consumers. However, in 2000, the transportation CPI rose more rapidly (4.1%) than the average (3.4%), primarily due to higher fuel prices.

To achieve reliability and accessibility, our transportation system frequently relies on common public infrastructure that is maintained on limited national resources – our land, waterways, and airspace. DOT's objective is to optimize capital investment in these public systems and manage them to maximize the benefit to all Americans. The FY 2002 budget proposes $42.3 billion in mobility funding to meet this challenge.

We Aim To Achieve These Strategic Outcomes:

- Improve the physical condition of the transportation system.
- Reduce transportation time from origin to destination for the individual transportation user.
- Increase the reliability of trip times for the individual transportation user.
- Increase access to transportation systems for the individual user.
- Reduce the cost of transportation for the individual user.

PERFORMANCE GOALS

Improve Physical Condition
Highway Pavement Condition
Highway Bridge Condition
Runway Pavement Condition
Bus and Rail Transit Fleet Condition

Reduce Transportation Time
Highway Congestion
ITS Integration
Airport Capacity and Efficiency Improvement
Impediments to Port Commerce

Increase Trip Time Reliability
Aviation Delay
All Weather Access to Airports
St. Lawrence Seaway Lock Availability
Domestic Icebreaking
Maritime Navigation

Increase Access to Transportation
Amtrak Ridership
Transportation Accessibility
Essential Air Service
Appalachian Highway System
Access to Jobs

This section includes a Performance Progress Report for 1994-2000 describing how well we achieved the mobility goals in our 2000 Performance Plan.

This section also includes pages for each performance goal describing 2000 results and 2002 targets (goals). Alongside our 2000 results, we note if the target was met. If the target was missed but recent data show the trend responding in a good direction, we note that important result. A detailed analysis of performance results for 2000 and our strategies and initiatives for 2002 follow the Performance Progress Report.

Performance Progress Report: Mobility

	1994	1995	1996	1997	1998	1999	2000	2000 Target	Target Met	Good Trend
Percent miles of NHS roads meeting pavement performance standards	90.2	89.6	91.5	91.8	92.1	93.0	93.8*	91.8	X	
Percent of deficient NHS bridges	25.7	25.7	25.8	23.4	23.1	23.0	21.5	22.5	X	
Percent of runways in good or fair condition	N/A	N/A	93	95	95	95	95	93	X	
Average condition of motor bus fleet	2.96	2.95	3.02	3.09	3.11	3.13	3.21	3.15	X	
Average condition of rail vehicle fleet	3.17	3.15	3.13	3.09	3.08	3.14	3.25	3.19	X	
Hours of delay per 1,000 VMT on Fed-aid Highways	N/A	N/A	8.2	8.2	8.1	8.1	8.1*	8.0		
Metropolitan areas where integrated ITS infrastructure is deployed	N/A	N/A	N/A	36	N/A	49	52	51	X	
Percent of flight segments that aircraft are able to fly off ATC-preferred routes	N/A	N/A	75.0	75.3	76.2	77.4	79.1	80		X
Percent of ports reporting landside impediments to the flow of commerce***	N/A	N/A	N/A	N/A	41	40	N/A	39		
Aviation delays per 100,000 activities	172	154	181	161	191	220	250	171		
Total published Global Positioning System (GPS) airport approaches	0	44	352	937	1,453	1,984	2,488	2,453	X	
Percent of days in shipping season that locks are available	97	98	97	98	98.5	99.2	98.7	99		
Days certain critical waterways are closed due to ice	N/A	N/A	7	0	0	0	0	2-8	X	
Maritime collisions, allisions, and groundings	N/A	N/A	1,145	1,136	1,063	917	1,177**	1,224	X	
Amtrak's intercity ridership in millions of passengers	21.2	20.7	19.7	20.2	21.1	21.5	22.5	23.7		X
Percent of key rail stations ADA compliant	13	19	19	26	29	49	52	47	X	
Percent bus fleet ADA compliant	55	60	63	68	72	77	80	80	X	
Percent subsidized communities with at least 2 round trips/day, 6 days/week (12 round trips/week)	N/A	N/A	N/A	N/A	100	100	100	100	X	
Percent subsidized communities with at least 3 round trips/day, 6 days/week (18 round trips/week)	N/A	N/A	N/A	N/A	76	78	77	75	X	
Miles of Appalachian Development Highway System completed	2,142	2,178	2,204	2,259	2,409	2,456	2,483	2,373	X	
Employment sites made accessible by Job Access and Reverse Commute transportation services	N/A	N/A	N/A	N/A	N/A	1,742	13,390**	4,050	X	

N/A = Not Available
* Projection
** Preliminary estimate
*** Data for this goal are unreliable

HIGHWAY PAVEMENT CONDITION: The National Highway System (NHS) consists of only 161,117 miles of rural and urban roads--just 4 percent of total highway miles--but carries 1 trillion or 43 percent of vehicle-miles traveled (VMT). The system serves major population centers, international border crossings, intermodal transportation facilities, and major travel destinations. The condition of this system can affect wear-and-tear on vehicles, fuel consumption, travel time, congestion, and comfort, as well as public safety. Improving the pavement condition is also important to the long-term structural integrity and cost effectiveness of the transportation system.

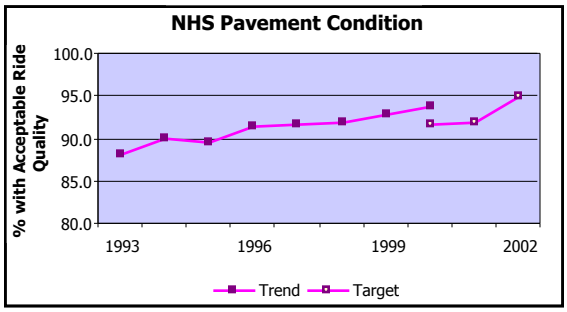
Performance Measure: Percentage of miles on the NHS that meet pavement performance standards for acceptable ride.

	1999	2000	2001	2002
Target:	91.5	91.8	91.9	95
Actual:	93.0(r)	93.8#		

(r) Revised

 # Projected

External Factors: VMT has grown by over 2 percent during the past decade, in consonance with the U.S. economy's growth. Use of heavier and longer trucks has increased pavement deterioration.



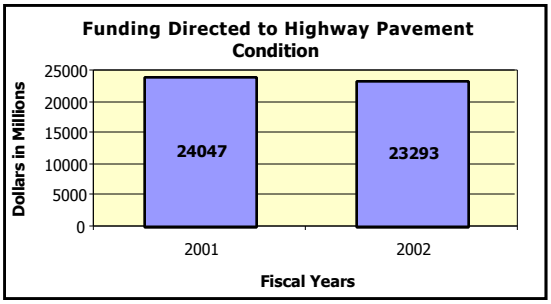
2000 Results: DOT estimates that it will again meet its performance target. Due to the significant increase in investment in pavement preservation and rehabilitation from the increased funding made available in TEA-21, and efforts to improve pavement condition, the ride quality of NHS pavements has improved faster than anticipated. DOT has adjusted the 2002 target upward to account for actual performance in 1999, and expected performance this year.

The focus of this measure of pavement performance is smoothness. Adopting more effective construction and maintenance methods and applying "best practices" in pavement management can improve pavement smoothness. FHWA continued the Pavement Smoothness Initiative, begun last year, to provide information derived from both Research and Development and analysis of "best practices" in pavement construction and management to State DOTs and others involved in the construction and maintenance of highways.

FHWA is also promoting pavement preservation nationwide. This initiative will result in improved pavement smoothness, extended pavement life, and reduced life cycle cost. Model specifications have been developed to assist State Departments of Transportation in improving pavement construction practices. Efforts are underway to promote pavement preservation practices to extend pavement life and improve condition. Work is also underway with the States to improve pavement condition measurement practices and equipment. This effort will increase the reliability of the data used as a basis for decisions on pavement preservation and rehabilitation.

FY 2001 Performance Plan Evaluation: DOT expects to meet the 2001 target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



FHWA partners with State and other authorities to promote infrastructure development and improvement through direct funding, grants, and technical assistance and advances in road construction, repair, and maintenance technology. FHWA technology deployment initiatives, in partnership with the States and industry, will ensure that advancements in pavement materials, practices and high performance materials are adopted to improve the performance of NHS pavements. Initiatives to promote construction of smoother pavements and preservation actions to extend pavement performance will be continued.

- The FHWA Federal-aid program provides funds for projects that improve NHS pavement con-

dition through rehabilitation and pavement preservation. Most of the funding for these projects comes from the NHS and Interstate Maintenance (IM) programs. Over $5.2 billion in IM funds and approximately $6.2 billion in NHS funds will be obligated in FY 2002.

- The FHWA asphalt pavement technology program focuses on optimizing materials selection to maximize the cost-benefit ratio associated with pavement design and construction. Benefits include reduced maintenance, better ride quality, increased pavement life and reduced life cycle cost.

- To widely publicize information, FHWA will continue cooperative approaches with the States and industry to disseminate results from the Pavement Smoothness Initiative, from evaluations of the Superpave system's effectiveness, and from "best practices" programs. FHWA and the States will work together to form "Lead State" teams to promote benefits of smoother pavements and "best practices".

- FHWA will conduct pavement research (other than SUPERPAVE) and continue the Long Term Pavement Performance Program (LTPP). Planned activities include: (1) improving methods of using concrete pavement for highways; (2) monitoring and evaluating highway sections to prepare new products; (3) measuring pavement ride quality and smoothness; and (4) investigating new techniques to analyze, image, and simulate asphalt pavements.

- FHWA will work with the States and industry to extend pavement life using a 50-year pavement system concept.

Other Federal Programs with Common Outcomes: None.

Management Challenge – Highway Trust Fund Receipts/Allocation (GAO)

The June 2000 GAO report stated that there is little assurance that Highway Account funds distributed to the States are accurate given the information currently available. Although the Treasury Department and FHWA are taking actions to review and improve their estimating processes, these actions are not sufficient to correct the weaknesses. Therefore, to reduce the risk of errors and increase the reliability of the information used to distribute Federal highway program funds to the States, GAO made these recommendations to DOT:

- Perform detailed, independent verifications of motor fuel data used in the process.

- Fully document FHWA's current analysis methodology for State motor fuel data.

- Conduct an independent, comprehensive review of this methodology.

- Evaluate the potential reliability of the Internal Revenue Service's ExFIRS data as a tool to validate State motor fuel data.

FHWA officials agreed with all of the recommendations aimed at improving the reliability of FHWA's attribution process, and FHWA has developed an action plan to implement the recommendations. FHWA has also agreed to prepare an annual report to the Congress (with the first report to be issued in July 2001) summarizing its progress in improving reliability of the attribution process whereby Federal highway-user taxes are mapped to their sources in the States.

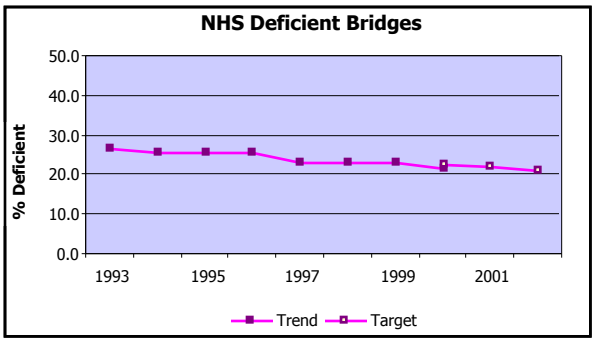
HIGHWAY BRIDGE CONDITION: There are approximately 587,000 bridges in the National Bridge Inventory, of which approximately 115,000 serve major population centers, international border crossings, intermodal transportation facilities, and major travel destinations, as part of the National Highway System (NHS). While 29 percent of the total bridge inventory is deficient, the subset of NHS bridges is in better condition -- approximately 22 percent are either structurally deficient or functionally obsolete (in terms of dimensions, load or other characteristics). DOT seeks to improve the condition of our Nation's bridges so that the public's access to activities, goods, and services is not impaired.

Performance Measure: Percentage of bridges on the NHS that are deficient.

	1999	2000	2001	2002
Target:	22.8	22.5	22.3	21.0
Actual:	23.0(r)	21.5		

(r) Revised

External Factors: VMT has grown by over 2 percent during the past decade, in consonance with the U.S. economy's growth. Use of heavier and longer trucks has increased bridge deterioration.



1999 Results: Last year on a preliminary basis, DOT reported that 22.7 percent of NHS bridges were deficient. The actual percentage was 23.0. While DOT missed the target, the trend is good.

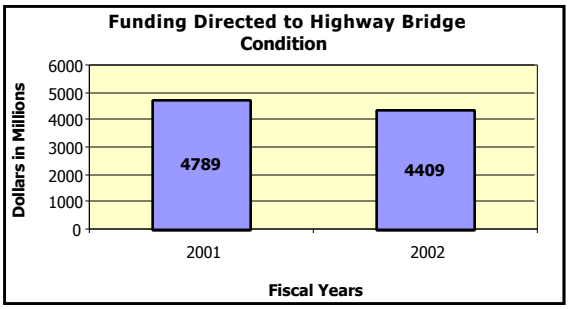
2000 Results: DOT met the performance target. In 2000, through its Innovative Bridge Research and Construction program, FHWA provided funds to 39 states for 57 projects. These projects were selected based on their potential to demonstrate the application of innovative material technology in bridge construction. FHWA will use the results of these projects to assist State and local governments in improving the state-of-the-art in bridge design, construction, and rehabilitation.

Through the Highway Bridge Replacement and Rehabilitation Program (HBRRP), FHWA provided more than $3.5 billion to assist States in improving bridge condition. In addition to funding, FHWA provided technical assistance that resulted in improved, less costly designs and maintenance operations.

The American Association of State Highway and Transportation Officials (AASHTO), in cooperation with FHWA, continued to develop software to load-rate bridges. The initial modules to assess steel bridge and pre-stressed and reinforced concrete bridges were completed. The integration of this software with the Bridge Management System will provide a better tool to assist States in planning systematic preservation, management, and improvement of bridge conditions.

FY 2001 Performance Plan Evaluation: DOT expects to meet this year's performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In 2002, DOT will continue to provide technical assistance and funding to States for bridge replacement and rehabilitation. In addition, all regulations pertaining to the bridge programs will be reviewed and recommendations provided, where feasible, to increase flexibility in the use of bridge funds for system preservation initiatives. DOT will work with States and other partners in both the public and private sector to improve management of bridge assets. FHWA will focus research on improving the technology of bridge 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.

- The FHWA Federal-aid Highway programs

provide funds for projects that improve the condition of NHS and non-NHS bridges. Through the Highway Bridge Replacement and Rehabilitation Program, $4.4 billion will be provided in 2002, 7% more than in 2001.

- The Surface Transportation Research program provides durable structural materials, nondestructive evaluation technologies for assessing the condition of bridges, and technical assistance, all of which lead to extended bridge service life. A total of $9.4 million is provided for these activities in 2002.

- Innovative bridge research 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 2002 innovative bridge construction program, funded at $21 million (19% more than in 2001), demonstrates the application of innovative materials on selected bridges.

- FHWA will conduct an assessment of the barriers to effective bridge management.

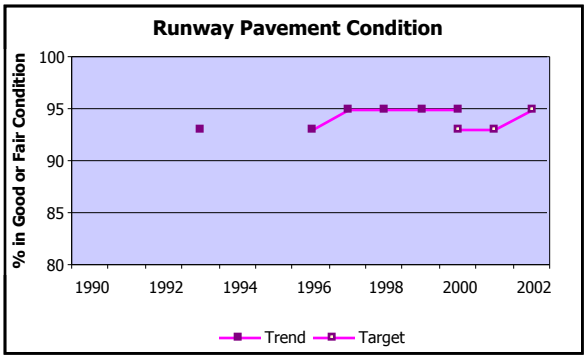
Other Federal Programs with Common Outcomes: None.

RUNWAY PAVEMENT CONDITION: Deteriorated airport runway pavement can damage propellers, turbines and airplane landing gear. Proper design, construction, and maintenance can slow this deterioration, but runways still need complete rehabilitation every 15 to 20 years -- 5% to 7% of runways during a typical year. Federal airport funding helps achieve this necessary level of rehabilitation, and—combined with proper maintenance—helps keep runway condition at or above the minimum level needed to ensure efficient airport operation.

Performance Measure: Percent of runways in good or fair condition (commercial service, reliever, and selected general aviation airports).

	1999	2000	2001	2002
Target:	93%	93%	93%	95%
Actual:	95%	95%		

External Factors: Runway rehabilitation is among the highest priorities of FAA's Airport Improvement Program (AIP), but airport operators, who pay a portion of the cost, must initiate projects.



2000 Results: DOT met its goal of maintaining over 93% of runway pavement in good or fair condition. In 2000, 95% of the runways at airports included in the National Plan of Integrated Airport Systems (NPIAS) were reported in good or fair condition. At NPIAS airports with commercial service, 98% of runways were in good or fair condition. A robust national economy helped enable local government investment in runway pavement maintenance and rehabilitation.

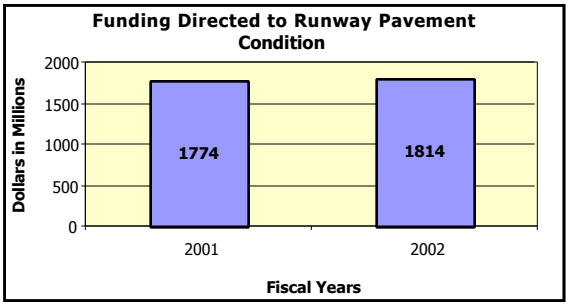
Many State aviation agencies are using computer-based pavement management systems to predict when pavement maintenance and rehabilitation are needed and most likely to be cost effective. These measures enhance the effectiveness of State and Federal expenditures on airfield pavement.

The National Pavement Test Facility at the William J. Hughes Technical Center was completed and is in operation. FAA conducts full-scale tests of aircraft landing gear configurations on test pavement sections, to improve pavement design and construction.

In 2000, FAA issued 173 runway rehabilitation grants ($220 million). With the airport grant program's reauthorization, more AIP funds are made available to help fund routine pavement maintenance at thousands of non-primary airports.

FY 2001 Performance Plan Evaluation: DOT expects to meet its performance target again in 2001. The FAA expects to issue about 260 grants for runway rehabilitation in 2001. Grants will also be available for routine work to preserve and extend the useful life of runways, taxiways, and aprons at non-primary airports.

Strategies and Initiatives to Achieve 2002 target: DOT resources attributable to this performance goal are depicted below:



Since DOT has consistently performed at a higher level than our performance target, and in light of increased funding for airports and runways, DOT has raised the performance target for 2002. Maintaining and rehabilitating runways costs less than total reconstruction of runways. FAA will continue to require AIP grant recipients to show evidence of an airport pavement maintenance management program and to make AIP funds available for routine pavement maintenance at non-primary airports.

In 2002:

- FAA will continue to give requests for runway rehabilitation a high priority. FAA estimates that approximately 220 runways will be reha-

bilitated with AIP aid in 2002. The availability of AIP funds for this purpose will have the most immediate influence on runway pavement condition ($500 million).

- FAA will continue research to refine pavement design to accommodate new larger aircraft that will impose very heavy wheel loads on pavement ($2.0 million).

Other Federal Programs with Common Outcomes: None.

Management Challenge – Airport Revenue Diversion (IG)

A significant ongoing challenge for FAA is ensuring the appropriate use of airport funds. A wide range of FAA actions is meeting this challenge. FAA implemented all the revenue use provisions of the Federal Aviation Reauthorization Act of 1996, issued a comprehensive policy statement, and issued an advisory circular instructing airports on the filing of annual reports to the FAA. FAA is using FAA-sponsored outreach forums; appearances at conferences and seminars conducted by airport industry trade associations and regional, State and local aviation organizations; and similar venues to educate airport sponsors about their Federal obligations regarding proper use of airport revenue. Local government airport sponsors are required to review airport revenue use as part of their annual audit of Federal programs under the Single Audit Act. FAA, working with the Office of Management and Budget and the General Accounting Office, has issued detailed guidance to auditors on the conduct of those reviews. Enforcement actions may include withholding of grants under the Airport Improvement Program.

BUS AND RAIL TRANSIT FLEET CONDITION: Public transit provides people with a reliable way to get around day by day, whether they are going to and from work, school, entertainment, or shopping. If the transit infrastructure is in disrepair, then reliability drops and service schedules are not met. Ridership may also drop, reducing many of the environmental and congestion benefits of transit. By improving the condition of buses and the rapid rail fleet, DOT can keep public transit moving and make sure that it is reliable and dependable.

Performance measure: Average condition of motor bus fleet (on a scale of 1 (poor) to 5 (excellent)).

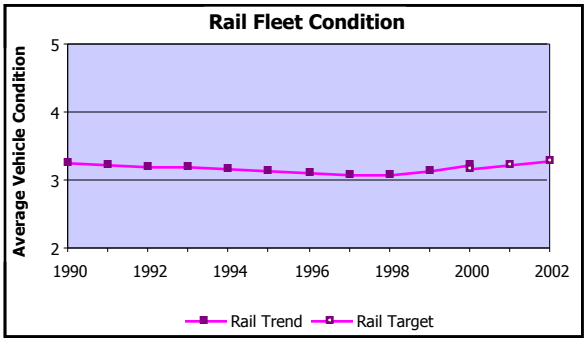
	1999	2000	2001	2002
Target:	N/A	3.15	3.20	3.25
Actual:	3.13(r)	3.21		

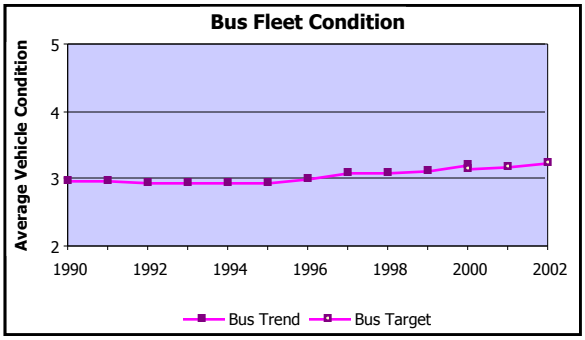
Performance measure: Average condition of rail vehicle fleet (on a scale of 1 (poor) to 5 (excellent)).

	1999	2000	2001	2002
Target:	N/A	3.19	3.24	3.29
Actual:	3.14	3.25		

(r) Revised

External Factors: DOT provides substantial transit grants to improve the condition of the transit infrastructure, but State and local agencies allocate these resources. Furthermore, the impact of today's capital investments will not be realized for several years. In the meantime, changes in the national and regional economies may affect transit investment, maintenance, and use.



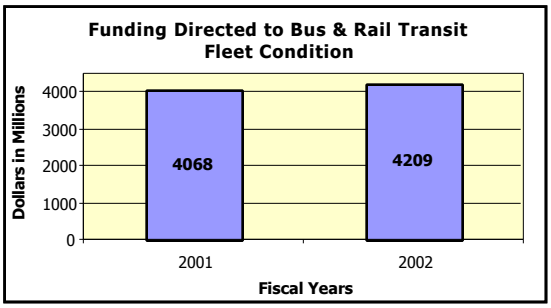


2000 Results: The average condition of both the motor bus fleet and the rail vehicle fleet improved in 2000, and both performance targets were met. Prior to TEA-21, the bus and rail vehicle maintenance, rehabilitation, and replacement rates were steady, reflecting both industry practice and policies on the use of Federal funds. Since enactment of TEA-21, investment levels have increased, allowing transit agencies to accelerate maintenance and replacement of buses and rail vehicles. The rail fleet's average condition is roughly equal to that of the bus fleet, despite the fact that its average age is well above what could be expected with normal replacement cycles.

In 2000, FTA continued its research on vehicle technologies and continued to provide technical assistance on maintenance practices to encourage and facilitate innovations.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance targets this year.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



DOT provides grants to State and local agencies and local transit authorities to promote investment in the transit infrastructure. In 2002:

- The Formula Grants program provides funds for transit projects including preventive maintenance, and bus and railcar purchases. ($3.6 billion in FY 2002, 9.1% above the FY 2001 enacted level.)

- The Capital Investment Program provides grants to projects that increase investment in the transit infrastructure. This program will provide $568 million for buses and bus facilities, $1.1 billion for rail modernization, and $1.1 billion for new rail projects and extensions. (Total funding equals $2.84 billion, 5.5% above the FY 2001 enacted level.)

- FTA collects data for the National Transit Database and uses this information to produce the Condition and Performance Report to Congress. These activities ensure that funding from other programs is allocated efficiently to get the most out of our investments. ($2.6 million)

Other Federal Programs with Common Outcomes: None.

HIGHWAY CONGESTION: Congestion is one of the main causes of frustration and unhappiness for users of the highway system. Delay on the Nation's highway systems is a major cost to motorists - amounting to $72 billion in 1997 in lost wages and wasted fuel. It has even more serious consequences for national productivity. Congestion adds to the cost of production, drives prices up, and reduces funds available for investment in product development or firm expansion. Slowing the growth of congestion and delay aids urban travelers' mobility and productivity, and curbs economic inefficiencies induced by congestion.

Performance measure: Of total annual urban-area travel, percentage that occurs in congested conditions.

	1999	2000	2001	2002
Target:	N/A	N/A	33.4%	33.7%
Actual:	32.6%	33.1%#		

Performance measure: Of annual urban-area peak period travel time, additional percentage of travel time attributable to congestion.

	1999	2000	2001	2002
Target:	N/A	N/A	26.6%	27.2%
Actual:	25%	26%#		

Performance measure: For the individual traveler in urban areas, average annual hours of extra travel time due to delays.

	1999	2000	2001	2002
Target:	N/A	N/A	33.5	34
Actual:	32	33#		

 # Projected

Discontinued Performance measure: Hours of delay per 1,000 vehicle-miles-traveled (VMT) on Federal-aid highways.

	1999	2000	2001	2002
Target:	8.1	8.0	*	*
Actual:	8.1(r)	8.1#		

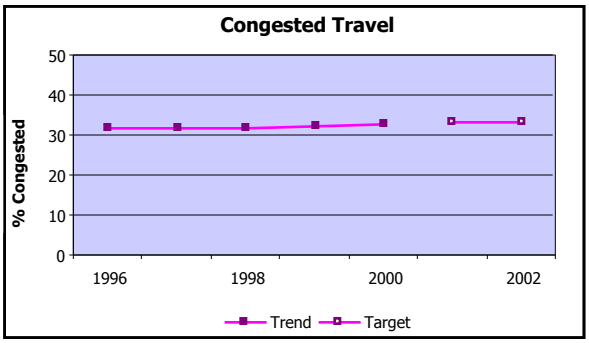
(r) Revised

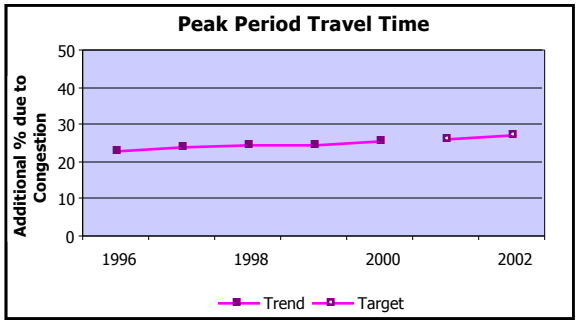
 # Projected

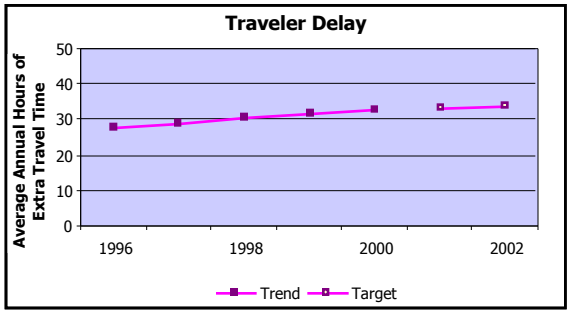
** Measure was discontinued in the DOT FY 2001 Revised Final Performance Plan.*

External Factors: Lane mileage in metropolitan areas – an indicator of road system capacity - has increased at a far slower rate than has highway travel for the past ten years. As the Nation's cities grow, this travel increase tends to occur at peak periods – the commute to and from work – and increased congestion results.

1999 Results: Data were not available last year for DOT to determine its performance relative to the 1999 target. The actual delay was 8.1 hours per 1,000 miles traveled, matching our targeted level of performance. As was reported last year, studies indicate that urban mobility is worsening.







2000 Results: Actual performance numbers for both the old and new measures are unavailable until September/October 2001. Even so, DOT projects no improvement in the hours of delay per 1,000 VMT between 1999 and 2000. Thus, DOT missed the performance target.

As discussed in DOT's FY 2001 Revised Final Performance Plan, the hours of delay per 1,000 VMT represents only one dimension of delay and does not effectively reflect the actual performance of the highway system in places where congestion regularly happens. Therefore, beginning in 2001 the measure is being replaced by three new inter-related measures: congested travel, peak period travel time, and traveler delay. While no target

was set, DOT projects that in 2000, 33.1% of daily travel occurred under congested conditions. Because of congested highway conditions, the average peak-period trip took 26% (estimated) longer than the same trip would have taken in uncongested conditions. For example, highway congestion added nearly 8 minutes onto a trip that normally would take 30 minutes at the posted speed limit in uncongested conditions. Overall, each individual traveler spent an estimated 33 additional hours on the highway in 2000 because of congested conditions.

The Federal Highway Administration conducted a comprehensive Traveler Perception survey in 2000. The following information lists some of the key findings regarding highway congestion:

- 65% of those surveyed are satisfied with the major highways they travel most often (up 15 percentage points since 1995), while dissatisfaction has increased by 6 percentage points.

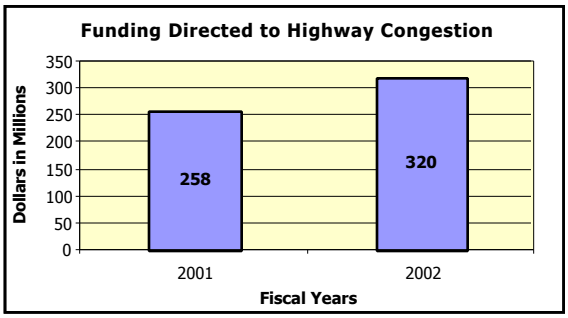
- The public perceives heavy traffic to be the most important reason for travel delays (53%). This is twice the number for roadwork and five times the number for either accidents or traffic signals.

- Two in three respondents indicated highway congestion conditions affected their decisions on when to travel and which roads to use. About 20% of respondents indicated that traffic affected their decisions about where to work and which hours to work, and 30 percent said it affected their decision about where they live now.

The public's preferred transportation improvements encourage smarter road management and operation. For example, drivers desire a strategy of "get in, get out, stay out" for both roadwork and clearing accidents. Citizens want us to plan and execute effectively so the work is done correctly and quickly the first time, resulting in less traffic disruption; and to focus on quality improvements and high performing materials to minimize the need for recurring roadwork. FHWA has taken these results into account in its outreach plans for highway operations.

FY 2001 Performance Plan Evaluation: DOT expects to meet the revised targets, despite expected increases in miles traveled. As stated in the FY 2001 Revised Final Performance Plan, this new set of measures focuses on urban areas where congestion mostly occurs, and will capture several different aspects of delay by focusing on the complex dynamics of urban road system performance.

Strategies and Initiatives to Achieve 2002 Targets: DOT resources attributable to this performance goal are depicted below:



DOT implements a wide range of strategies to address congestion and improve operations on the Nation's highway system. In 2002, the FHWA will:

<u>Deploy Intelligent Transportation System (ITS) Infrastructure.</u> FHWA will provide funding to deploy ITS systems, enabling or enhancing surface transportation operations. More detailed information on 2002 strategies and initiatives are included in the ITS goal page. ($135 million, 30% more than FY 2001)

<u>Build State and local operations' institutional capacity.</u> FHWA will conduct outreach to help "institutionalize" planning coalitions necessary for integrated operation of the surface transportation system, develop planning and decision support tools, and develop operations performance measures. Major initiatives include:

- developing guidance and training for operations planning and self-assessment, and conducting regional training and outreach programs;

- devising a "best practice" Highway Performance Measurement Tool Box for Operations and collection guidelines; and

- updating incident management guidance.

<u>Research, develop, test and evaluate new operations techniques, technology applications and tools.</u> FHWA will advance the state-of-the-art with strategic research and development; tests and demonstrations of new applications, techniques, and technology; and evaluation. Initiatives include:

- performing operational tests of Integrated Public Safety Vehicle Dispatching and Public Safety Mobile Data Interchange;

- performing operations tests of emergency preparation and evacuation operations; and

- evaluating the value of integrating road weather information into a Transportation Operations Center or Emergency Operations Center.

Other Federal Programs with Common Outcomes: None

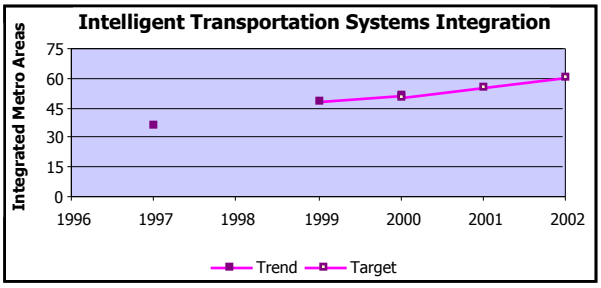
INTELLIGENT TRANSPORTATION SYSTEMS INTEGRATION: Highway congestion is a persistent problem, and opportunities to build new roads or expand existing roads have declined substantially. Intelligent Transportation Systems (ITS) use electronic information and communications technology to extend the capacity of our existing infrastructure system – examples are freeway management, traffic signal control, electronic toll collection, transit management, and regional multimodal traveler information. But while ITS deployment is beneficial, piecemeal purchase and installation of technology creates artificial system boundaries. The challenge to Federal, State, and local transportation officials is to integrate these systems so that the Nation can realize all the potential benefits associated with ITS. DOT seeks to foster an increased level of ITS integration in 78 metropolitan areas.

Performance measure: Number of metropolitan areas where integrated ITS infrastructure is deployed.

	1999	2000	2001	2002
Target:	N/A	51	56	61
Actual:	49(r)	52		

(r) Revised

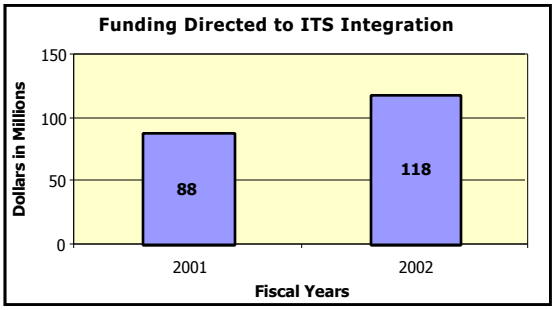
External Factors: Significant control over ITS deployment resides at the local level, and stovepiped ITS deployments that are not regionally integrated are still occurring. A recently published policy requiring development of regional ITS architectures will lead to accelerated deployment of integrated ITS, and minimize the possibility of ITS systems that cannot conform to an open architecture.



2000 Results: DOT met its 2000 performance target. There was solid progress nationwide in both ITS deployment and integration, although in most cases, not enough to bring systems to a sufficiently integrated state to be counted in this performance result. In 2000, 29 metropolitan areas reported new integration links between freeway, arterial, and transit management agencies for sharing real-time transportation information. Deployment advanced as well, with 61 metropolitan areas reporting an increase in the level of deployment of one or more of five key infrastructure components: freeway, transit, arterial, and emergency management and traveler information.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The strategies FHWA will employ to support States and localities in their efforts to integrate ITS into their surface transportation system include:

- conducting research and operational tests, developing standards, and transferring technology ($118.2 million, 34% more than FY 2001);
- providing policy guidance and technical support; and
- providing funding for integrated ITS infrastructure deployment in metropolitan areas (see Highway Congestion goal page).

The U.S. DOT ITS Standards Program is working toward the widespread use of standards to encourage the interoperability of ITS systems. Through cooperative agreements with five standards development organizations (SDOs), the Standards Program is accelerating development of about 80 non-proprietary, industry-based, consensus ITS standards, and is encouraging public-sector participation in the development process. DOT will implement a Comprehensive Architecture and Standards Consistency Technical Assistance Program to promote and support interoperability. Within the funding mentioned above, DOT will:

- support development of regional ITS architectures by developing training modules

and delivering training nationwide, and focus on deploying service plans to small and medium sized metropolitan areas;

- demonstrate the deployment of a '511' Traveler Information Number system, award 25 '511' conversion grants, and develop guidelines for use of public information in private travel information services; and

- finish developing and reach agreement with States on minimum standard National Highway System information requirements.

Other Federal Programs with Common Outcomes: The Environmental Protection Agency has been working cooperatively with the Federal Highway Administration in efforts to better understand the impacts of Intelligent Transportation Systems deployments on the environment.

AIRPORT CAPACITY AND EN ROUTE EFFICIENCY IMPROVEMENTS:

Air travel demand is growing steadily. U.S. airlines transport over 600 million passengers annually, and this number is expected to increase over 50 percent by 2010. In 2000, there were approximately 5 million scheduled operations for the top 10 air carriers. DOT will need to utilize available airspace more efficiently in the future to keep pace with aviation activity and increase passenger throughput.

Performance measure: Cumulative increase in throughput during peak periods at certain major airports.

	1999	2000	2001	2002
Target:				
Original	N/A	N/A	3%	N/A
Revised	N/A	N/A	2%	3.8%
Actual:	N/A	N/A		

Performance measure: Cumulative increase in direct routings for en route flight phase.

	1999	2000	2001	2002
Target:				
Original	N/A	N/A	15%	N/A
Revised	N/A	N/A	3.9%	7.6%
Actual:	N/A	N/A		

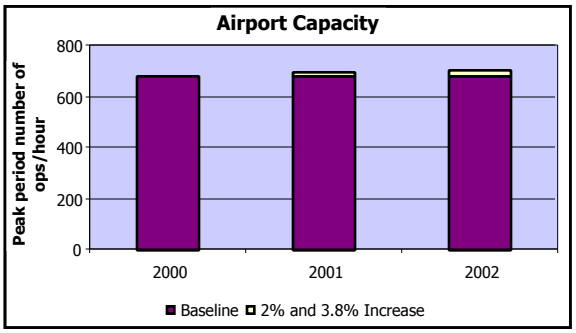
Discontinued performance measure: Percentage of flights that aircraft are able to fly off ATC-preferred routes.

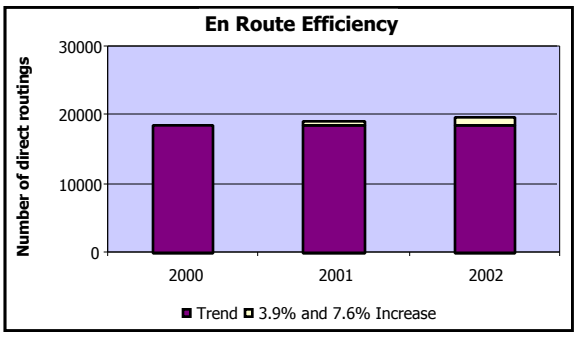
	1999	2000	2001	2002
Target:	80%	80%	*	*
Actual:	77.4%	79.1%		

**Measure was discontinued in the DOT FY 2001 Revised Final Performance Plan.*

Note on Measures: The current capacity and efficiency measures were first stated in revisions to DOT's FY 2001 Performance Plan, and were specific to planned performance in FY 2001. Accordingly, both measures have been phrased with a more long-term focus, and baselines from which capacity and efficiency increases are measured now encompass all airports and en route traffic control centers where Free Flight Phase I software tools will be installed.

External Factors: Several constraints exist which potentially limit aircraft throughput in the Nation's busiest airports and in certain congested airspace areas. Decisions by air carriers to concentrate operations in one or more hub airports, changing consumer demand for air travel, rapid population growth in urban centers, physical configurations of airports and terminals, and environmental considerations can either saturate or limit the ability to move aircraft to and from airports, and through congested airspace.





2000 Results: In 2000, 79.1% of flights were able to fly off ATC preferred routes, falling just short of the goal of 80%. This is approaching the upper limit of preferred route exclusions without technological improvements.

The aim of eliminating required routings is to give increased flexibility to aircraft routings, which may translate into improved scheduling efficiency and reduced flight miles. The action of eliminating an ATC-preferred route does not automatically increase aviation efficiency since the ATC-preferred route might also be the air carrier preferred routing. The benefit of eliminating a required routing is determined by the amount of traffic on the route and whether air carriers use the flexibility to improve efficiency.

In 2000, FAA eliminated 219 preferred routes, up from 170 in FY 1999. However, route flexibility was also increased through significant use of the North American Route Program (NRP) and Departure Procedures (DP)/Standard Terminal Arrival Route (STAR) program. The NRP, which begins 200 miles from the departure airport and ends 200 miles from the arrival airport, enables the use of more efficient routes unimpeded by the Preferred Route System. DP/STAR expands the

entry and exit positions for aircraft transitioning to NRP to points within the 200-mile limit near airports.

FY 2001 Performance Plan Evaluation: DOT estimates that it will meet this year's performance targets.

To determine capacity increases, FAA measures throughput during peak periods of operational activity. If throughput increases during peak periods, it is an indicator that capacity has increased.

Through the Free Flight program, grants for new runway construction, and other focused efforts, FAA seeks to improve use of available airspace capacity by creating new technological decision tools for controllers, either in airport towers, or in en route control centers.

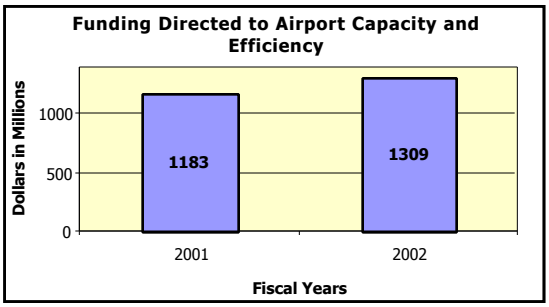
Since it takes many years to build additional runways, which provide the greatest increase in total capacity for growing levels of air traffic, FAA is undertaking projects to provide efficiency tools in the near term to maximize use of existing airspace and runway capacity. This will increase usable capacity, flexibility and efficiency of the Air Traffic System. FAA has efficiency tools in use at the following locations:

- Center TRACON Automation System (CTAS), a decision support tool for air traffic controllers, is operational at Minneapolis-St. Paul and Los Angeles, enabling more efficient arrival flows into terminal airspace and onto runways. CTAS is a combination of passive Final Approach Spacing Tool (pFAST) and Traffic Management Advisor (TMA).

- User Request Evaluation Tool (URET), a conflict probe, is installed at the Memphis and Indianapolis En-route Centers and will enable controllers to more quickly approve user requests in en route airspace by identifying potential aircraft-to-aircraft conflicts up to 20 minutes in advance.

FAA is also examining ways to streamline environmental review of new runway construction, and ways in which to shorten the overall authorization process for locally initiated expansion of airport capacity. FAA will submit a report to Congress in April 2001 with recommendations for environmental process streamlining, in accordance with Aviation Investment and Reform Act for the 21st Century (AIR-21).

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In 2002, FAA plans to have these tools in use at the following additional locations ($122.7 million):

- (CTAS) operational in Atlanta, Miami, and St. Louis.

- (URET) operational in Atlanta, Cleveland, Chicago, Kansas City, and Washington.

With the implementation of CTAS, FAA expects to see capacity improvements and greater opportunity for more aircraft to operate within the system, resulting in more passengers going where they want, when they want, or, with given demand, reduced delay.

As URET is implemented, FAA expects to see improvements in efficiency by allowing aircraft to fly more "direct" routes resulting in shorter flight segments, yielding fuel and time savings. FAA also expects fewer altitude restrictions, allowing aircraft to operate longer at optimum altitudes resulting in greater fuel efficiency.

Other Federal Programs with Common Outcomes: None.

IMPEDIMENTS TO PORT COMMERCE: Ports play an essential role in the U.S. economy. Today, over two billion tons of goods produced or consumed in the United States move through our Nation's ports and waterways; however, this volume is expected to more than double over the next 20 years. Increased bottlenecks will potentially degrade the efficient intermodal movement of goods through our ports without improvements to inland rail, highway, and truck intermodal connections, as well as waterside port access improvements.

Performance measure: Percentage of ports reporting landside and waterside impediments to the flow of commerce.

	1999	2000	2001	2002
Target:	40%	39%	37%	*
Actual:	40%	#		

 # No measurement available.

**Discontinued performance measure*

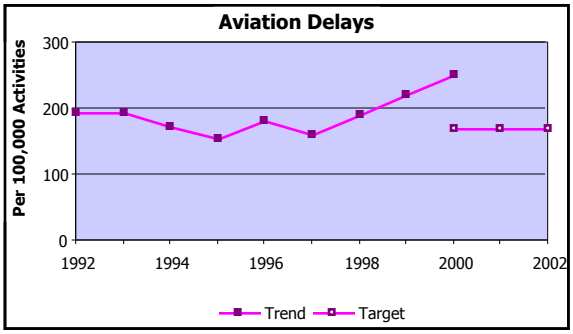
2000 Results: After reexamining available data sources, MARAD concluded that the performance data did not have sufficient validity to indicate whether or not it was meeting the yearly targets. Therefore, DOT is eliminating this goal.

AVIATION DELAY: Commercial aviation delays are estimated to cost airlines over $3 billion per year. Passengers are directly affected by missed flight connections, missed meetings, and loss of personal time. There are approximately 20 congested airports, each averaging over 20,000 hours of flight delay per year. Delays throughout the system are projected to increase as passenger travel demand continues to rise.

Performance measure: Aviation delays per 100,000 activities.

	1999	2000	2001	2002
Target:	N/A	171	171	171
Actual:	220	250		

External Factors: Delays throughout the National Airspace System (NAS) are generally the result of air traffic density, adverse weather, and capacity constraints, particularly at large hub airports. As traffic increases throughout the system, delays are likely to increase. Consequently, maintaining the current delay rate would represent a significant accomplishment.

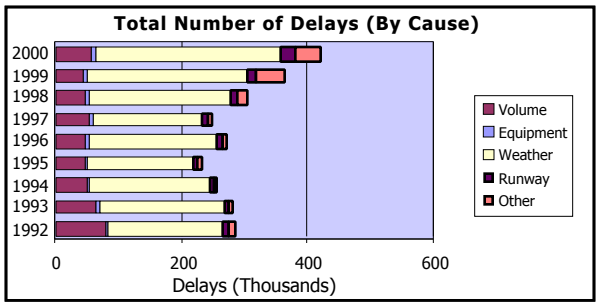


2000 Results: DOT did not meet its performance target; in fact, the overall delay rate significantly exceeded the target, because of bad weather, which accounted for about 70% of all delays. Over 270 delays per 100,000 activities were due to weather alone in June 2000, the worst month of flight delay in FAA history.

Volume delays, at about 34 per 100,000 activities, increased significantly in 2000, partly due to the overall increase in activities from FY 1999 to FY 2000 (1.9%), and partly due to the increase in exempted flights operating out of congested, high-density airports. For example, while August 2000 operations at LaGuardia were 4.7% above those in August 1999, terminal volume delays rose by 329 percent.

Approximately four delays per 100,000 activities were due to equipment failure in 2000, less than the 1999 rate of five per 100,000. The National Operations Control Center (NOCC) will continue to collaborate daily with Air Traffic System managers to ensure National Air Space equipment and services available on any given day are put to optimal use.

"Other" delays (including runway delays), at about 39 per 100,000 activities, are slightly above last year. While delays due to runway construction at Minneapolis and Seattle have abated, projects are underway at Houston, Phoenix, and St. Louis. The unavailability of Land and Hold Short Operations (LAHSO) at several airports has also added to delays.



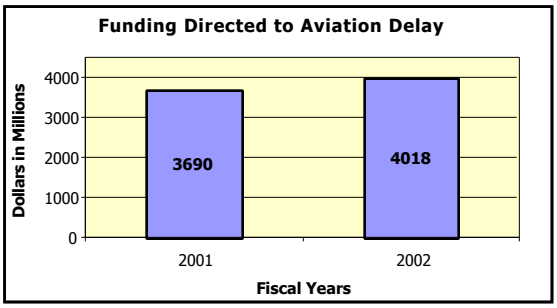
FY 2001 Performance Plan Evaluation: It is unlikely that DOT will meet this year's target given the increase in delays during 2000 and trends in air travel.

FAA continued its collaborative effort with the aviation industry to reduce weather delays by maintaining pre-planned alternative flight routings, by improved and more frequent weather forecasts, and by increased use of lower altitude and East Coast military special-use airspace. FAA has been working with the aviation industry to better define system capacity by creating operating and throughput benchmarks at 31 large airports. FAA is also working with industry to develop alternative solutions for avoiding delays at these 31 airports, and will develop an operational plan to alleviate choke points east of the Mississippi River and north of Washington, DC, and maximize use of available aviation system capacity.

The lack of a common definition of delay has led to confusion and disagreement as to the extent of aviation delays. As a result, DOT formed a task force, which recommended that airlines be required to report on four new categories of flight delays due to: circumstances within an airline's control; extreme weather; circumstances within

the national aviation system; and late flight arrivals. A test of this changed reporting framework will be conducted with one or more airlines prior to a rulemaking effort.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The Administration is extremely concerned about delays in the National Airspace system and how FAA is organized to manage the Nation's air traffic. DOT will work with the aviation community over the next year to develop a plan of action for improving the Nation's aviation system. While recognizing the role of airlines and airports, this plan will focus on:

- an examination of the success that Canada and other nations have experienced with individual air traffic control systems owned and operated by private companies;
- improved FAA business practices;
- organizational changes, including establishing a performance-based air traffic control organization; and
- market-oriented techniques to strengthen FAA's operations and reduce system delays.

Over the long term, increased airport capacity, all weather access to runways, and building more runways will provide the best means of reducing aviation delays. (See the goal pages for Airport Capacity and En Route Efficiency Improvements and All Weather Access to Airports.) In the near term, FAA service delivery improvements designed to reduce delays will focus on Free Flight Phase 1 tools, continuing to modernize air traffic management capital asset systems, and improvements in the aviation weather system. In 2002, FAA will:

- Complete the installation of air traffic automation enhancements such as the 'Traffic Management Advisor' (TMA) at major hubs (Dallas-Ft. Worth, Los Angeles, Atlanta, Minneapolis, Oakland, Miami, and Denver); and 'passive Final Approach Spacing Tool' (pFAST) at certain Terminal Radar Approach Control Centers (TRACONs) (Dallas-Ft. Worth, Los Angeles, Atlanta, Minneapolis, New York—JFK, and Newark). ($42 million) (To maximize and manage airport arrivals, air traffic managers and controllers use both TMA and pFAST. See the goal page for Airport Capacity and En Route Efficiency for a discussion of these tools in combination.)

- Develop two major systems to improve weather reporting, processing, and dissemination. The Integrated Terminal Weather System (ITWS) will consolidate information from several sources, which will then be provided to FAA TRACONs and airport towers. The Weather and Radar Processor (WARP) will report weather information and integrate weather radar data provided to the FAA centers. ($39.9 million)

- Continue to implement and improve existing weather sensors such as Next Generation Weather Radar (NEXRAD), Terminal Doppler Weather Radar (TDWR), the Low Level Wind Shear Alert System, a wind shear detection channel for the terminal radar, and the Automated Surface Observation System (ASOS). ($26.7 million)

- Implement and evaluate an experimental demonstration program called Collaborative Convective Forecast Product (CCFP) at the Air Traffic Control System Command Center (ATCSCC). The CCFP will provide a single convective forecast for use in coordinating a system-wide approach to severe weather events.

As part of its collaborative efforts to reduce delays, the FAA has created a special data system, Aviation System Performance Metrics (ASPM), to compare actual versus scheduled performance by phase of a flight. ASPM data contain, among other things, actual and scheduled arrivals and departures by air carriers by airport, and the actual acceptance and departure rates by airport. Acceptance and departure rates reflect the arrivals and departures that can occur, based on standard air traffic management practices. Aviation industry demand for arrivals or departures at an airport, divided by the practical capacity of the airport, gives a utilization rate for that airport. Utilization rates will enable delay reduction program effectiveness assessments.

Other Federal Programs with Common Outcomes: NASA has developed enhanced software tools for air traffic control in partnership with the FAA.

The National Weather Service (NWS) has developed the Collaborative Convective Forecast Product (CCFP). FAA's aggressive aviation weather research program, in collaboration with the NWS and other government agencies, is investing in improved numerical weather models to provide more detailed and timely hazardous weather detection and forecasting. Improved icing, turbulence, oceanic convection, and a national ceiling and visibility forecast program provide the tools for improved flight planning and collaborative decision making.

Management Challenge – Aviation System Capacity and Air Traffic Control Modernization (IG/GAO/OMB)

U.S. airlines transported nearly 700 million passengers in 2000, and this number is expected to grow to over one billion by 2010. To meet this demand for air travel and decrease the number of flight delays, FAA is modernizing the Nation's air traffic control system by acquiring a network of radar, automated information processing, navigation, and communications equipment. The IG, GAO, and OMB have listed several management challenges (see also the IG report dated August 29, 2000 regarding FAA's Integrated Product Development System):

- Strengthen FAA's capacity to oversee multi-billion dollar software-intensive development efforts.
- Institute cost control mechanisms for software-intensive contracts to ensure products are delivered approximately on time and within agreed upon budget parameters.
- Identify and resolve human factors issues early in the acquisition process to avoid cost overruns and schedule delays.
- Establish baseline plans for transitioning to satellite-based systems for communications, navigation, and surveillance.

The FAA is engaged in a comprehensive program to modernize the air traffic control system. This includes replacement of controller workstations and automation software; replacement of radar surveillance systems; modernization of voice communication systems; and the introduction of enhanced automation aids, data link, and improved weather systems. This modernization is necessary to keep pace with improvements in technology and to accommodate air traffic growth. There are significant management challenges associated with maintaining schedule and cost discipline, given the complex nature of the equipment and the need for the highest level of reliability. The FAA is addressing these challenges in a number of ways:

- Completing cost, schedule, and performance baselines for major acquisition programs and evaluating all capital portfolio investments. Any changes to acquisition program baselines must be reviewed and approved by the executive-level Joint Resources Council. (FY 2001)
- Using Earned Value Management for all appropriate acquisition programs. (FY 2001)
- Establishing a Wide Area Augmentation System (WAAS) Integrity Performance Panel and an Independent Review Board to analyze problems and develop solutions to WAAS system integrity issues that arose during system integration testing.
- Ensuring that the FAA national airspace system architecture and capital investment plans are tied to FAA strategic plan goals. (FY 2002)
- Ensuring human factors policies, processes and procedures are integrated in the research and acquisition of 100 percent of FAA aviation systems and applications. (FY 2005)

The Administrator, the Deputy Administrator, and FAA senior management will meet at least quarterly to review all FAA Corporate Projects. Projects addressed will include key acquisitions and other projects associated with air traffic control modernization. Where projects are not on schedule/on target, the management team will agree on actions to bring them back on track. (FY 2000-2005).

See also the beginning of the FY 2002 Strategies section for a discussion of DOT's overall effort to create a reduction plan which will focus comprehensively on policy, organizational, and technology solutions to aviation delay.

ALL WEATHER ACCESS TO AIRPORTS: There are nearly 4,000 public use airports with paved runways in the United States. Currently, about 600 of these airports have an instrument landing system (ILS) for precision approaches. Precision approaches improve access to airports and enhance safety by providing guidance when visibility is limited. Because many airports have more than one runway, the total number of runways with precision landing guidance is about 1,200. DOT seeks to improve airport access in all weather conditions, consistent with flight safety in the critical landing phase.

Performance measure: Number of runways that are accessible in low visibility conditions.

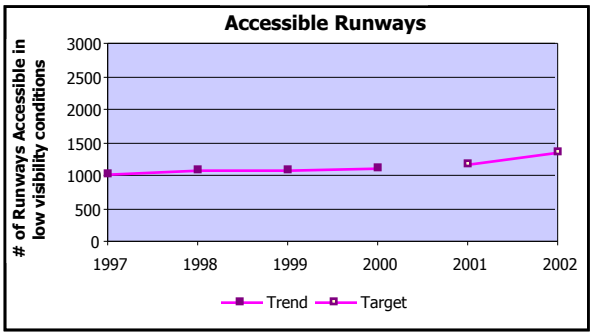
	1999	2000	2001	2002
Target:	N/A	N/A	1,191	1,354
Actual:	1,084	1,109		

Discontinued performance measure: Total number of published GPS airport approaches.

	1999	2000	2001	2002
Target:	1,953	2,453	*	*
Actual:	1,984	2,488		

** Measure was discontinued in the DOT FY 2001 Performance Plan.*

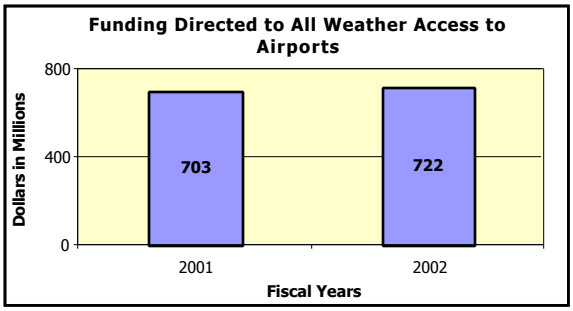
External factors: Developing vertically guided approaches requires accurate survey information for airport runway location and any obstacles near the flight path for approach. The National Geodetic Survey does these surveys. Increasing all-weather access depends on both having a published approach and increasing the number of aircraft equipped to make precision approaches.



2000 Results: DOT met the performance target. FAA published 504 new approaches in 2000 through a cooperative effort with the National Oceanic and Atmospheric Administration.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target for 2001. The FAA is coordinating funding requests to support Distance Measuring Equipment (DME) and Precision Approach Path Indicator (PAPI) equipment acquisitions and installations at FAR Part 139 Certificated Airports. In addition, the FAA is supporting the development of a Lateral/Vertical Navigation Approach (LNAV/VNAV) solution for the Wide Area Augmentation System (WAAS).
The FAA will coordinate with radio spectrum users internationally to change the worldwide frequency allocation to support Local Area Augmentation System (LAAS) implementation.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Access to airports, airspace, and air traffic services are basic needs of all airspace users. While there are many aspects of system accessibility that impact end users, increasing the availability of vertical descent guidance during low visibility weather conditions is critical. For aircraft to land in restricted visibility, the airport must have published procedures for a vertically guided approach and the electronic guidance to insure the aircraft is able to follow the published approach. The FAA's navigation and landing systems are evolving from ground-based navigation aids to a satellite-based system. The system consists of the Global Positioning System (GPS) augmented by WAAS and LAAS. GPS/WAAS and LAAS will provide vertically guided approaches to selected airports.

For the 245 additional runways, FAA will undertake a series of actions to provide additional all weather runway access. First, landing guidance from an Instrument Landing System or other ground-based electronic navigational aid must be available.
Next, FAA will develop procedures that ensure that aircraft follow a specific path to avoid terrain and

other hazards. All weather access is also improved by the installation of runway lights and other visual approach aids, such as the Visual Approach Slope Indicator (VASI) and glideslope strobe lights.

In 2002, FAA will:

- begin acquiring and installing additional DMEs and PAPIs at airports. Non-precision approaches at National Transportation Safety Board (NTSB) designated high- and medium-risk runways at certain airports will be augmented with vertical-guidance;

- continue the process of converting privately developed special instrument approach procedures for public use; and

- develop Instrument Flight Procedures (IFP) and validate instrument flight inspection activities to improve global aviation safety.

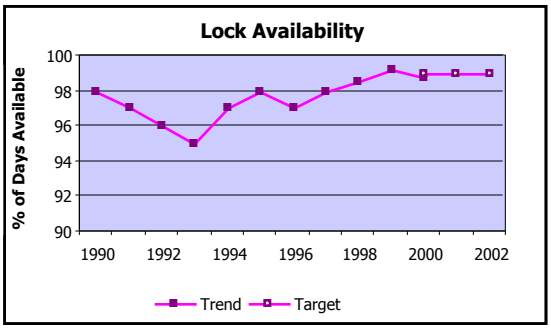
Other Federal Programs with Common Outcomes: The basic enabling technology for precision approaches to runways in lowered visibility is the GPS satellite navigation system developed and operated by DOD. The National Geodetic Survey provided vertical and horizontal control information for proper spatial orientation of precision landing systems.

ST. LAWRENCE SEAWAY LOCK AVAILABILITY: The St. Lawrence Seaway is the international gateway to the Great Lakes, providing access for 3,000 commercial vessel transits, and carrying 35.4 million metric tons of cargo to and from U.S. and Canadian ports in 2000. This shipping route offers competitive costs with other routes and modes to the interior of the country, helping to increase U.S. exports and facilitating economic access to imports. The U.S. Department of Transportation and the Canadian St. Lawrence Seaway Management Corporation share responsibility for operation and maintenance of the Seaway locks and related navigation facilities. The reliability of each Seaway lock determines the reliability of the entire Great Lakes St. Lawrence Seaway System.

Performance measure: Percentage of days in the shipping season that locks are available.

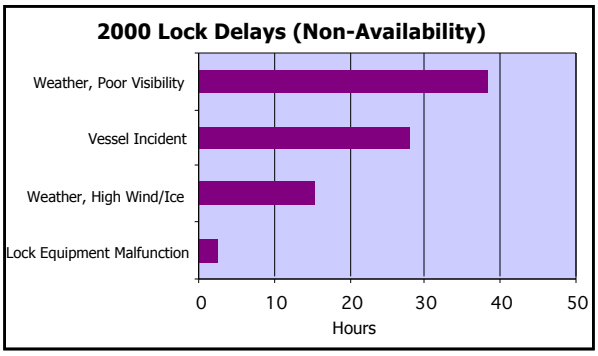
	1999	2000	2001	2002
Target:	99%	99%	99%	99%
Actual:	99.2%	98.7%		

External Factors: Several external factors may affect performance including vessel incidents due to human error, mechanical failure, and weather conditions (poor visibility, high wind, or ice formation). Water levels and the rate of flow in Lake Ontario and the St. Lawrence River are subject to weather and binational regulation.



2000 Results: During the Seaway's 2000 navigation season, the availability of vessel locks maintained and operated by the Saint Lawrence Seaway Development Corporation (SLSDC) was 98.7 percent. This result was slightly below the target of 99 percent.

An analysis of the factors that caused lock non-availabilities in 2000 indicates that the most common cause was weather (53.7 hours, or 64 percent of total non-availability). These weather delays usually occur at the beginning and end of each navigation season, and are caused by high winds, ice, blizzards, and dense fog. The other major factor that reduced lock availability in 2000 was vessel incidents (27.8 hours, or 33 percent of total non-availability). Vessel incidents involve ship operations, and are usually caused by human error on the part of a vessel's crew. Also included as incidents are vessel breakdowns, which are

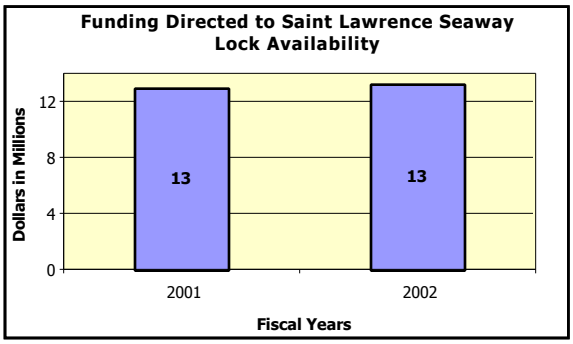


caused by mechanical problems with a vessel. While none of these factors are directly under the control of the SLSDC, the SLSDC is taking steps to address these factors. The SLSDC has joined with its Canadian counterpart, the St. Lawrence Seaway Management Corporation, as well as the U.S. and Canadian Coast Guards, to institute a joint boarding program for the foreign vessels that use the Seaway. This vessel inspection program was certified as ISO 9002 compliant in 1998.

The SLSDC is also developing an Automatic Identification System (AIS)-based Vessel Traffic Management System (TMS) that is based on the Differential Global Positioning System (DGPS) technology. The application of Universal AIS technology should enhance the efficiency of Seaway operations, improve the safety of navigation on the Seaway, and reduce vessel incidents when it is implemented during the 2001 navigation season. Of the remaining factors that cause lockage shutdowns, the Corporation has the most control over the proper functioning of lock equipment. During the 2000 navigation season, only 2.6 hours of the 84.1 total hours of downtime (3 percent) were due to malfunctioning lock equipment.

FY 2001 Performance Plan Evaluation: DOT expects to achieve the target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



SLSDC strategies for 2002 focus on long-term preventive maintenance programs, including periodic inspections; a winter shutdown maintenance program; emergency response simulations and training; and replenishment of reserves for emergencies and critical maintenance outlays. Specifically SLSDC will:

- operate and maintain the locks and related navigation facilities for the U.S. portion of the St. Lawrence Seaway. Emphasis will be on periodic inspections and surveys of locks and machinery, and implementation of lock structure improvement programs as recommended by the U.S. Army Corps of Engineers.

- continue coordination with its Canadian counterpart agency to ensure consistency in the vessel inspection procedures of the two agencies and to implement joint projects aimed at improving the safety and efficiency of the waterway and the two Seaway agencies.

Other Federal Programs with Common Outcomes: The Canadian St. Lawrence Seaway Management Corporation carries out counterpart programs. The SLSDC engages in information exchanges with the U.S. Army Corps of Engineers, which operates locks on U.S. inland waterways, and closely coordinates with Transport Canada, and with the International Joint Commission and St. Lawrence Seaway River Board of Control regarding water level conditions.

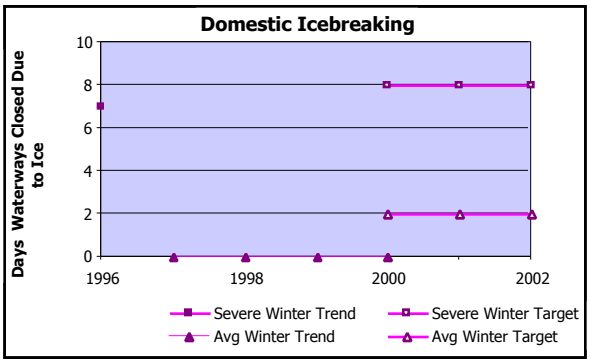
DOMESTIC ICEBREAKING: Unimpeded access to shipping routes in the Great Lakes and the Northeast during winter months is crucial for many industries, particularly those that ship bulk cargoes and home heating oil and do not have other transportation alternatives. Approximately 15 million tons of materials (ore, coal, steel, etc.) are shipped during the winter on the Great Lakes alone. Waterway closures increase transportation costs, potentially overload other forms of transportation, and prohibit supply of essential energy supplies to some communities.

Performance measure: Days critical waterways are closed due to ice.

	1999	2000	2001	2002
Target:	2#	2-8#	2-8#	2-8#
Actual:	0	0		

#2 days in an average winter; 8 days in a severe winter.

External Factors: Icebreaking performance is affected by ice thickness, which is linked to the severity of the winter weather. Some sources of traffic delay (e.g., canal lock closures) must be addressed by other government agencies such as the Army Corps of Engineers and the St. Lawrence Seaway Authority of Canada.

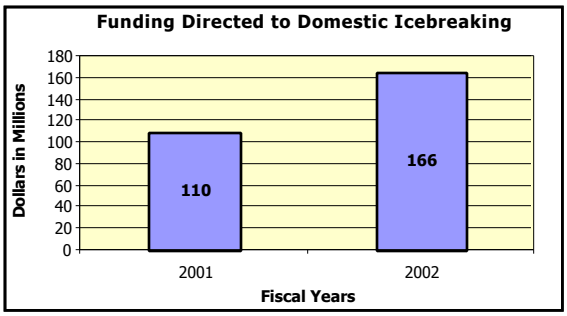


2000 Results: DOT met the performance target. The winter of 1999 – 2000 was slightly warmer than average, although a three week cold snap in the northeastern United States raised concerns about the ability of fuel deliveries to be made on time. These concerns turned out to be unfounded.

Great Lakes icebreaking assistance started in late December and ended March 31st. In the Northeast, assistance was provided from mid-December until late March. A total of 467 vessels were assisted, many of which carried petroleum products for home heating and power generation. Without icebreaking support, many communities in the Northeast would have experienced calamitous oil shortages during the coldest days of winter.

FY 2001 Performance Plan Evaluation: Although the current winter of 2001 has been colder than average, it appears that DOT will be able to meet its performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT aims to limit days of waterways closure due to ice by breaking the ice so that ships can pass, using Coast Guard ships with strengthened hulls for operating in ice. The cost increase depicted above results from expanding the scope of this measure to include icebreaking done by the Coast Guard outside the Great Lakes, and due to increased personnel and operating costs.

- Operate and maintain the heavy icebreaker *MACKINAW* and icebreaking tugs on the Great Lakes and in the Northeast to keep waterways open.
- Conduct icebreaking escorts of commercial vessels, establish and maintain ice-free tracks, monitor traffic routing and ice conditions, and free vessels beset in ice.
- Continue the acquisition of a replacement icebreaker for *MACKINAW*.

Other Federal Programs with Common Outcomes: The Canadian Coast Guard is the only other organization with significant icebreaking capability on the Great Lakes, and under long-standing arrangement, the U.S. and Canadian Coast Guards cooperate to keep waterways open. The U.S. Coast Guard coordinates with the Army Corps of Engineers on general navigation and mobility issues in the Great Lakes, with the common objective of keeping winter shipping as efficient as possible.

MARITIME NAVIGATION: More than two billion tons of freight worth $1 trillion annually move through U.S. ports and waterways. As trade increases, and larger volumes of commercial and recreational vessel traffic squeezes ports and waterway capacity, navigational accidents will have more of an impact on freight movements and increase the risk of environmental damage.

Performance measure: Total number of commercial vessel collisions, allisions, and groundings.

	1999	2000	2001	2002
Target:	N/A	N/A	2,204	2,163
Actual:	2,177	2,164#		

 # Preliminary data

Discontinued performance measure: Total number of navigational accidents -- maritime collisions, allisions and groundings – for freight and tank ships over 500 gross tons.

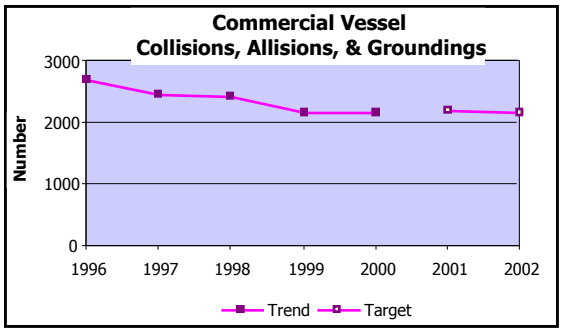
	1999	2000	2001	2002
Target:	N/A	1,224	*	*
Actual:	917(r)	1,177#		

(r) Revised

 # Preliminary data

** Measure was discontinued in the DOT FY 2001 Revised Final Performance Plan.*

Note on Revised Data: The Coast Guard records all reported collisions, allisions and groundings of commercial vessels. Collisions involving more than one vessel are counted more than once. Recreational vessels and public vessels are not included in this measure. For 2001, the scope of this measure was expanded to include all commercial vessels, not just freight and tank ships greater than 500 gross tons.



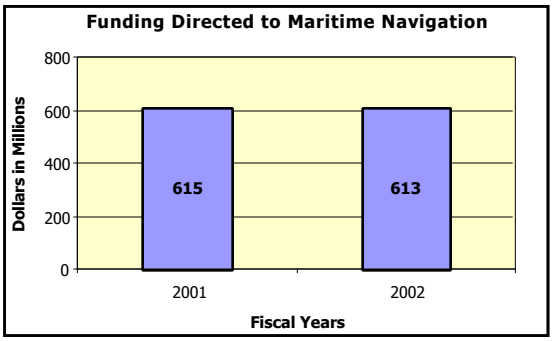
External Factors: Mobility efforts aim to ensure that our Nation's waterways are capable, accessible, available, and reliable at meeting the Nation's maritime commerce and recreational needs. However, collisions, allisions and groundings are strongly affected by human error on the part of those piloting the ships. Faster, larger, deeper draft vessels will pose a greater risk of navigational accidents.

2000 Results: Preliminary data indicates that DOT met the performance target for navigational accidents involving freight and tank ships over 500 gross tons. For all commercial vessels, there were 2,164 navigational accidents in 2000, most of which were caused by human error.

In 2000, commercial vessels made thousands of port calls in the United States excluding inland waterways. At the same time, Americans operate about 20 million recreational craft. With both commercial and recreational traffic and competition for access to U.S. waterways projected to increase in the years ahead, potential risks for waterway accidents will grow commensurately.

FY 2001 Performance Plan Evaluation: DOT expects to meet this year's target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The Coast Guard operates and maintains a national aids to navigation (ATON) system and provides Ports and Waterways Safety Systems (PAWSS) in select ports. The Coast Guard also develops national and international standards for vessel navigation, manning, and crew qualifications, and enforces these standards.

Reducing human error will be a major focus. New technology will be used to improve navigation.

Some specific 2002 activities include:

- Revise navigation equipment carriage requirements to accommodate newly available technology. Participate in the development of technical and performance standards for emerging navigation technologies.

- Continue to oversee the alteration or removal of bridges determined to be unreasonable obstructions to navigation, under the Truman-Hobbs Act. Funding will be made available from both the General Fund and the Federal-Aid Highway Discretionary Bridge Program.

- Research the technology needed to manage increasing traffic in major ports. The investigation, development, testing and demonstration of technologies, methods and standards for providing more effective vessel traffic safety and mobility information is critical to automate traffic and waterway management systems that will directly improve mobility and safety on U.S. waterways.

- Operate the Digital GPS (DGPS) navigation system. DGPS is a critical component of the Nation's radio navigation system and greatly enhances the safety of navigation along the coasts, in harbors and rivers. It has also become the exclusive mechanism for setting the majority of the aids to navigation for which the Coast Guard is responsible.

- Continue to purchase a state-of-the-art replacement fleet of new buoy tenders. ($74 million)

- Improve marine navigation by investing in staff, software tools and information systems, and establish Harbor Safety committees. ($837 thousand)

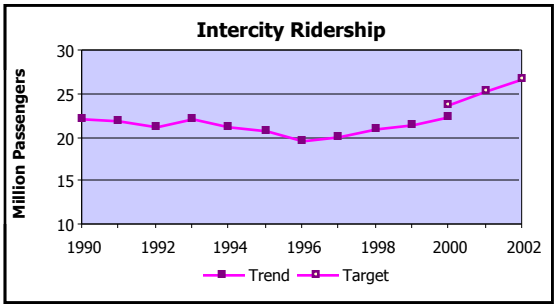
Other Federal Programs with Common Outcomes: The Coast Guard investigates marine accidents, and works with the National Transportation Safety Board (NTSB) to investigate major maritime accidents to use the lessons learned in improving waterway safety. The Army Corps of Engineers dredges channels to maintain charted depth and width; and both the Corps and the Department of Commerce (NOAA) provide navigation charts of U.S. ports and waterways. NOAA provides real-time environmental information on weather, tides, and currents to ships maneuvering in the Nation's waterways.

AMTRAK RIDERSHIP: Intercity rail passenger service benefits Americans by providing a transportation alternative to air or automobile travel, and thereby helps to reduce congestion, improve air quality, and decrease energy consumption. But such rail service is capital intensive, and Amtrak's operating revenues have not been able to fund all the annual costs necessary to renew its capital infrastructure. Increasing ridership on Amtrak trains is essential for the Corporation's financial viability.

Performance measure: Intercity ridership (millions of passengers).

	1999	2000	2001	2002
Target:	N/A	23.7	25.3	26.7
Actual:	21.5	22.5		

External Factors: Amtrak is a for-profit corporation. DOT must work to ensure that Amtrak balances the conflicting pressures of generating short-term cash, long-term revenues, and restoring Amtrak's aging infrastructure. Outside of the Northeast Corridor, commercial railroads own both rights-of-way and operating systems. This can create problems in achieving on-time performance (and customer satisfaction) on lines congested by freight trains.

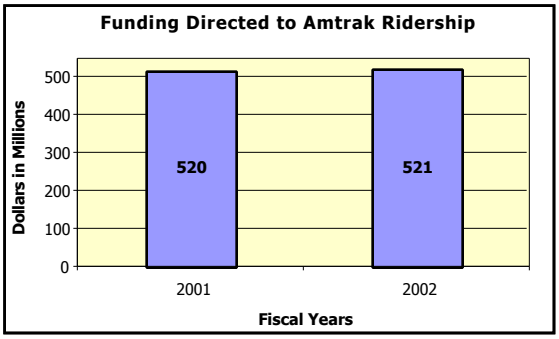


2000 Results: Although the target was not met, ridership levels rose considerably, marking the fourth consecutive year of significant increases for Amtrak. Amtrak ridership rose 4.7 percent above last year, and was at a record high. Furthermore, ridership growth occurred during a year when final delivery of Amtrak's high-speed train, the Acela Express, experienced significant delays. Amtrak placed the Acela Express into revenue service on December 11, 2000.

Amtrak also has experienced growth in passenger revenues. Passenger revenues have increased by close to 30 percent since FY 1996 and surpassed the $1 billion mark in FY 2000 for the third consecutive year. In FY 2000, the launch of Acela Regional, Amtrak's electric service between Boston and New York, managed to increase ridership by 45 percent and ticket revenues by 77 percent during the eleven months of operation compared to the non-electric service it replaced. Nevertheless, meeting the operating self-sufficiency goal remains a significant challenge, and can only be achieved by continual growth in ridership and revenues.

2001 Performance Plan Evaluation: In view of the extensive delays in the final delivery of the Acela Express equipment, Amtrak's FY 2001 ridership target of 25.3 million will not be met. Based on Amtrak's most current business plan, Amtrak is projecting ridership of 24.7 million in FY 2001.

Strategies and initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT's 2002 capital investment in Amtrak ($521 million) will continue to provide Amtrak the funds needed to meet its short-term capital needs. The proposed funding level is in line with Amtrak's "glidepath" to achieving operating self-sufficiency. In addition, it is proposed that Amtrak be allowed to use all of its FY 2002 funding immediately rather than at the current first year rate of 40 percent.

Other Federal Programs with Common Outcomes: None.

Management Challenge – Amtrak Financial Viability (IG/GAO)

The 1997 Amtrak Reform and Accountability Act mandated that Amtrak develop a plan to eliminate its need for Federal operating support by Fiscal Year 2003. The DOT IG, in a September 2000 report on Amtrak's Financial Performance and Requirements, recommended that Amtrak: (1) identify actions in its 2001 Strategic Business plan to close the $737 million gap in savings and

revenues, (2) withhold approval on projects that fall outside Amtrak's minimum capital needs until all minimum needs have been satisfied, and (3) identify all capital needs, their costs, their timing and their priority in a comprehensive long-range plan. Similarly, GAO has discussed Amtrak's need for greater progress toward the goal of operating self-sufficiency.

Amtrak is making progress toward its goal of operating self-sufficiency in 2002, but still faces significant management challenges toward reaching this goal.

FY 2000 was a record-setting year for Amtrak in terms of passenger ridership and revenues. Moreover, the company continued to position itself for future success by establishing a Customer Satisfaction Guarantee, commencing the first phase of its Network Growth Strategy, launching Acela Regional service, and initiating a transformation of its brand image.

DOT expects Amtrak's financial performance to continue to improve as a result of the introduction of the Acela Regional service on January 31, 2000, and Acela Express service in December 2000, with full revenue service estimated to begin in July 2001. Although ridership and revenue trends are positive for Amtrak, increases in labor costs, depreciation, and train operation expenses have fueled continued growth in operating expenses. To achieve operating self-sufficiency in 2002, Amtrak will need to reduce its cash loss significantly which will depend heavily on the growth of Amtrak's expenses. Amtrak's 2001 business plan identifies several strategies to better manage its rising costs, including: consolidation and standardization of procurement contracts; use of warranty provisions in contracts; improved management of inventories and receivables; use of technology to reduce operating costs; and changing fleet management practices.

TRANSPORTATION ACCESSIBILITY: Transportation is vital in maintaining independence and mobility for people with disabilities, linking them to employment, health care, participation in the community, and for their overall quality of life. The President's New Freedom initiative seeks to create a more accessible public transportation system for individuals with disabilities.

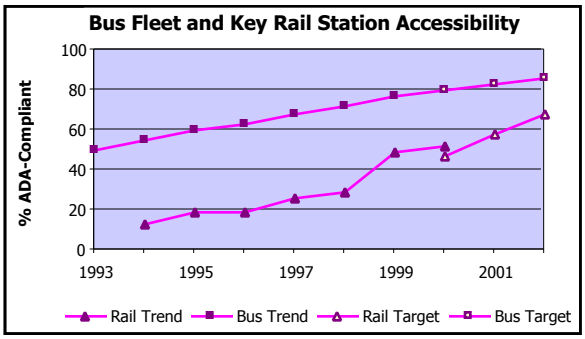
Performance measure: Percentage of bus fleets that are ADA-compliant.

	1999	2000	2001	2002
Target:	73%	80%	83%	86%
Actual:	77%	80%		

Performance measure: Percentage of key rail stations that are ADA-compliant.

	1999	2000	2001	2002
Target:	37%	47%	58%	68%
Actual:	49%	52%		

External Factors: As the population ages, more people will require accessible public transit. States and local agencies decide how to best allocate federally provided resources to ensure ADA compliance.



2000 Results: DOT met both performance targets. Both transit bus fleet and rail station compliance increased 3% from last year.

The fleet continues to become more accessible as older vehicles are replaced with those that are lift equipped or have low floors. The overall rate of increase in bus accessibility has slowed somewhat since many of the buses being replaced were already lift-equipped.

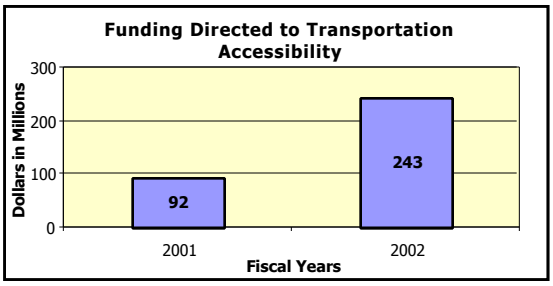
There are a total of 685 key rail stations nationwide at 33 transit properties. "Key stations" are designated by the commuter authority or light/rapid rail operator in cooperation with the local disability community. Criteria for identifying key stations include the number of passenger boardings, whether or not the station is a transfer station, a major interchange point, or an end station, and whether the station serves major activity centers.

The most important aspect of ADA rail oversight is key station assessments. Since 1995, FTA has assessed more than 450 stations. FTA employees take *in situ* measurements, record specific accessibility features at stations, and simultaneously provide technical assistance. Assessments ensure that stations certified as ADA-compliant remain in actual compliance with current standards.

Voluntary Compliance Agreements (VCA), establishing quarterly key rail station status reports, and key rail station assessments have significantly increased the number of fully compliant key rail stations over the last several years. VCA's are written agreements between FTA and grantees, whereby grant recipients commit to schedules and milestones to reach compliance. Failure to meet agreed upon schedules and milestones, along with a determination of the lack of good faith, can result in referral to the Department of Justice for enforcement.

FY 2001 Performance Plan Evaluation: DOT expects to achieve both performance targets this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



FTA provides grants to help local transit operators meet the requirements of ADA and assess compliance at rail stations, which are then self-certified as compliant with ADA requirements. FHWA, FTA and other DOT organizations also work to improve the accessibility of other modes of transportation. In 2002,

- The President's New Freedom Initiative will help to ensure transportation alternatives for Americans with disabilities. The budget proposes $45 million from within the Revenue

Aligned Budget Authority of FHWA for a pilot program for innovative transportation and $100 million in competitive matching grants to promote alternative transportation methods, including the purchase and operation of specialty vans and accessible vehicles.

- FTA's Formula Grants for Special Needs of Elderly Individuals and Individuals with Disabilities will provide funds to make transit more accessible. ($84.7 million, 7% above the FY 2001 level.) Funds provided by other Formula Grants, Capital Investment Grants, and Job Access and Reverse Commute Grants may also be used to buy new vehicles and facilities that are ADA compliant.

- FTA will continue to review grantee compliance with ADA. ($850 thousand)

- FTA's Project ACTION will conduct research, develop technology, and provide technical assistance to transit operators providing accessible service. ($3 million, same as in FY 2001)

- FTA's Rural Transportation Accessibility Incentive Program will help operators of over-the-road buses finance ADA compliance. ($6.95 million, 48% above the FY 2001 level)

Other Federal Programs with Common Outcomes: DOT participates in the DOT-HHS Coordinating Council with the Department of Health and Human Services. By cooperating with each other, DOT can develop transportation strategies to meet the needs of elderly and disabled people, and HHS can ensure that its services are accessible to its clients.

ESSENTIAL AIR SERVICE: An important aspect of the 1978 deregulation of the airline industry was establishing an Essential Air Service (EAS) program to guarantee over 700 eligible communities at least some minimum level of continuous air service. Under the EAS program, the Department subsidizes an air carrier to provide scheduled air service only if no carrier is willing to provide the service subsidy-free. Presently, 82 communities in the continental United States, Hawaii, Puerto Rico, and the U.S. territories ("non-Alaska") receive subsidized air service, and 31 more in Alaska. Service needs at the Alaskan communities are unique, determined on a case-by-case basis, include cargo as well as passengers, and thus are difficult to measure. Therefore, the performance measures shown below pertain only to non-Alaskan communities.

Performance measure: Percent of subsidized communities with at least 3 round trips/day, 6 days/week (18 round trips/week).

	1999	2000	2001	2002
Target:	75%	75%	75%	75%
Actual:	78%(r)	77%		

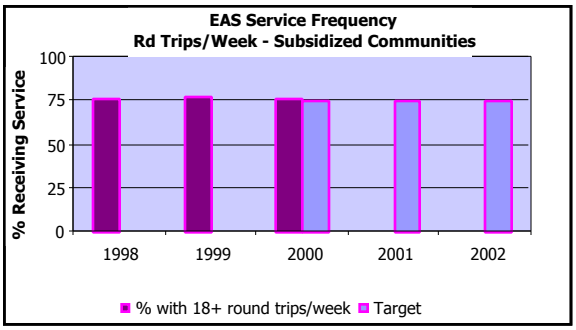
(r) Revised

Discontinued performance measure: Percent of subsidized communities with at least 2 round trips/day, 6 days/week (12 round trips/week).

	1999	2000	2001	2002
Target:	100%	100%	100%	*
Actual:	100%	100%		

** Discontinued performance measure. Rationale provided in 2000 Results section below.*

External Factors: The backbone of the EAS program for the past decade has been pressurized 19-seat aircraft. For a number of reasons, this aircraft size is being phased out of many airlines' fleets and being replaced with larger, more costly aircraft. The increasing cost of fuel and insurance combined with a pilot shortage challenge our ability to maintain current levels of access to air travel for underserved communities.



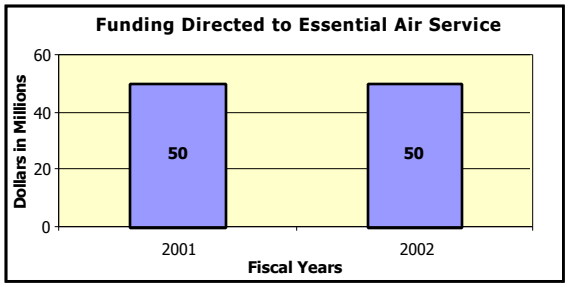
2000 Results: DOT met both performance targets last year. 82 communities received subsidized air service out of the 500+ non-Alaskan eligible communities. All 82 communities received at least 2 round trips/day, six days/week, the minimum level of service for any community receiving this service. In addition, 63 of those 82 received at least 3 round trips/day, 6 days a week. Industry practice is that more than 2 round trips/day are needed to maintain a viable market. Thus, DOT met its goal of having 75% of the subsidized communities receive the higher level of service.

Given that a threshold level of performance for any community receiving this service is 2 round-trip flights per day, 6 days per week, by definition, our performance for the discontinued measure will be 100%.

In 2000, of the EAS Program's $50 million annual budget, contracts totaling $49 million were entered into with air carriers to provide essential air service at more than 110 communities in the United States and its territories. Beyond just subsidizing service, DOT also aggressively contacted other carriers to alert them to the market opportunity opening up whenever an existing carrier reduced or eliminated service to an eligible community.

FY 2001 Performance Plan Evaluation: Based on performance in FY 2000, coupled with increasing challenges in maintaining last year's performance level, DOT will be challenged in meeting the performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In order to make it easier for airlines to participate in the EAS program, DOT will continue to use the Internet to issue "Requests for Service Proposals." The Administration is proposing $50 million in

2002, and tightened eligibility standards to fund EAS at communities in the continental United States and its territories outside a reasonable distance from airports with jet service. The proposed new eligibility criteria will enable DOT to focus EAS resources where they are most needed. To be eligible, communities must meet these proposed criteria:

- are beyond 100 highway miles from the nearest large or medium hub airport;
- are beyond 70 miles away from the nearest small hub airport; and
- are beyond 50 miles away from the nearest airport providing scheduled service with jet aircraft.

Other Federal Programs with Common Outcomes: None.

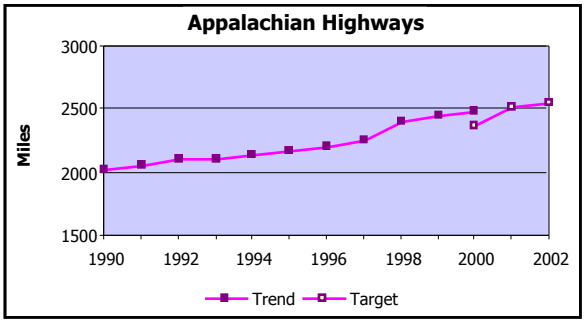
APPALACHIAN HIGHWAY SYSTEM: The economic condition of the Appalachian Region, comprising areas within 13 States, has historically lagged far behind the Nation as a whole. Growth depends on overcoming the Region's isolation and providing this underserved area with adequate infrastructure. In 1965, the Appalachian Regional Commission (ARC) was established to help develop the Region, and it runs the Region's highway program. Congress has authorized a 3,025-mile system for Appalachia – the Appalachian Development Highway System (ADHS) – to provide a modern system of four-lane highways. Approximately 82 percent of this system is complete or under construction.

Performance measure: Miles of the ADHS completed.

	1999	2000	2001	2002
Target:	2,327	2,373	2,530	2,557
Actual:	2,456(r)	2,483		

(r) Revised

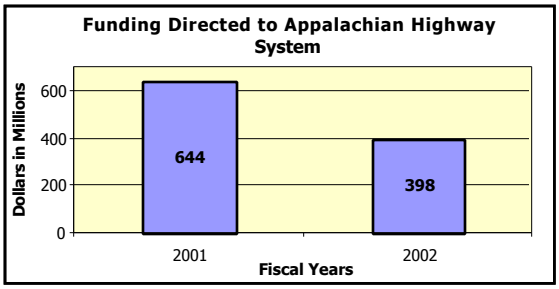
External Factors: The ARC has responsibility for all decision-making functions of the Appalachian highway program. The most expensive and difficult miles remain to be built.



2000 Results: DOT met its target. At the end of 2000, 2,483 miles of the Appalachian Development Highway System were completed.

FY 2001 Performance Plan Evaluation: The ARC now expects to have 2,530 miles of the ADHS completed by the end of FY 2001.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



FHWA will coordinate with the ARC, provide funds to States for construction of the ADHS, and provide administrative and technical assistance as it does for other Federal-aid programs.

- FHWA will provide funds to the 13 States with Appalachian corridor highways. The level of funding for each State will be determined by the ARC based on cost-to-complete estimates. Estimated obligations for 2002 are approximately $400 million.

- FHWA will provide the ARC with administrative and technical assistance. At the ARC's request, FHWA gathers data, such as cost-to-complete estimates.

Other Federal Programs with Common Outcomes: None.

ACCESS TO JOBS: The Personal Responsibility and Work Opportunity Reconciliation Act limits the time a person can receive welfare benefits, and generally requires recipients to participate in job and training activities. For many of these people, access to transportation is the key to making a transition from welfare to work. Public transit helps connect our lower income population to employment.

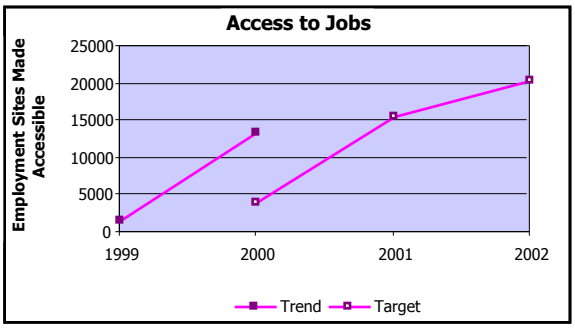
Performance measure: Number of employment sites that are made accessible by Job Access and Reverse Commute (JARC) transportation services.

	1999	2000	2001	2002
Target:	N/A	4,050	15,724	20,391
Actual:	1,742(r)	13,390#		

(r) Revised

 # Preliminary estimate.

External Factors: A physical disconnect exists between job growth in the suburbs and the majority of the low-income population living in rural areas or central cities. Current transit services are poorly equipped to accommodate these commutes. Furthermore, low-income workers frequently commute during nontraditional hours and cannot take advantage of rush hour transit services.

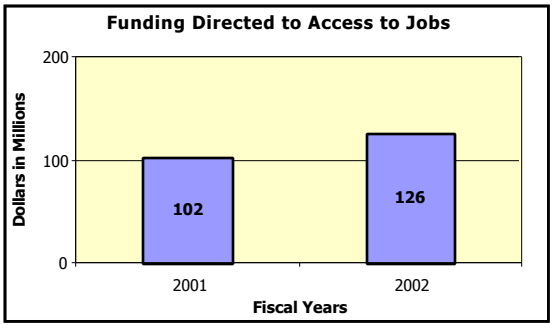


2000 Results: DOT far surpassed its target of the number of employment sites made accessible by JARC grants.

In 2000, there were $126 million in grant requests, of which FTA approved 119 grants totaling $76 million. In addition, FTA granted applicants pre-award funding authority to permit the selected applicants to start proposed services while their final applications were being processed. FTA also set reporting requirements to obtain information on the stated performance measures of reaching new job sites and on service effectiveness and efficiency. This information is to be reported in each grantee's quarterly progress report that is required once FTA obligates grant funding.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



DOT provides grants to State and local governments and non-profit organizations representing the disabled, Native Americans, migrant workers, welfare recipients, and low-income individuals to create new and expanded transit services. The services are intended to move people from their homes to employment sites and other employment-related services, such as child-care and job training. Grants also support services that provide access to suburban employment sites.

FTA's Job Access and Reverse Commute program will provide grants to help implement new transportation services and continue existing service linking welfare recipients to jobs. ($125 million)

Other Federal Programs with Common Outcomes: Helping people move from welfare to work is a goal shared by HUD's Bridges to Work, DOL's Welfare to Work (WTW), and HHS's Temporary Assistance to Needy Families (TANF) programs. Federal funds from these Departments may be used as part of the local match to DOT's Job Access grants and other non-DOT Federal aid. DOL and HHS have increased the scope and flexibility with which both WTW and TANF funds can be used for transportation purposes. Not only may these funds be used to fund clients' trips, but also these funds may now be used to fund new and expanded transportation services similar to the Job Access and Reverse Commute Program. Individual family reporting requirements and benefit time limits do not apply when WTW and TANF funds are used for new and expanded transportation service development.

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Performance Goals - Economic Growth

Performance Goal	Page	Data Details
Reduce Trade Barriers		
International Air Service	91	199
Improve International Competitiveness		
Commercial Shipbuilding	92	200
Improve Transportation Workforce Capacity		
Transportation and Education	94	200
Expand Business Opportunity		
Disadvantaged and Women-Owned Business Contracting	96	201

STRATEGIC GOAL: ECONOMIC GROWTH

Support a transportation system that sustains America's economic growth.

Economic growth is both a direct result of specific transportation programs, and an offshoot of providing for a safe, secure, reliable, and efficient transportation system. Beyond access and mobility, transportation is an enabler – a factor of production. Efficient, reliable and inexpensive transportation helps to free up resources that can be used to produce other goods and services consumed in the United States and overseas. On the other side of the ledger, there are the direct and indirect costs borne by users of the transportation system. These may be in terms of delay, unfair transportation-related trade barriers, equity of decision making on individual transportation projects, regulatory cost, or even the shocks to our economy associated with disruptions. The FY 2002 budget proposes $95 million in direct programs to meet these challenges.

We Aim To Achieve These Strategic Outcomes:

- Ensure the Producer Price Index (PPI) for transportation services grows less rapidly than the overall PPI through the year 2005.
- Reduce barriers to trade that are related to transportation.
- Improve the U.S. international competitive position in transportation goods and services.
- Improve the capacity of the transportation workforce.
- Expand opportunities for all businesses, especially small, women-owned, and disadvantaged businesses.

PERFORMANCE GOALS

Reduce Trade Barriers
International Air Service

Improve International Competitiveness
Commercial Shipbuilding

Improve Transportation Workforce Capacity
Transportation and Education

Expand Business Opportunity
Disadvantaged and Women-Owned Business Contracting

This section includes a Performance Progress Report for 1994-2000 describing how well we achieved the economic growth goals in our 2000 Performance Plan.

This section also includes pages for each performance goal describing 2000 results and 2002 targets (goals). Alongside our 2000 results, we note if the target was met. If the target was missed but recent data show the trend responding in a good direction, we note that important result. A detailed analysis of performance results for 2000 and our strategies and initiatives for 2002 follow the Performance Progress Report.

The DOT Strategic Plan for fiscal years 2000-2005 identified the percentage change in the PPI as a candidate performance measure for the aggregate cost of transportation. Reliable system-level data across the various modes of transportation are needed to develop an aggregate measure of the cost of transportation services before performance targets can be established for 2002 and beyond. We address this specific data need in the chapter on Performance Measurement, Verification and Validation.

Performance Progress Report: Economic Growth

	1994	1995	1996	1997	1998	1999	2000	2000 Target	Target Met	Good Trend
Passengers (millions) in international markets with open skies aviation agreements	32.4	34.5	38.4	40.7	43.0	49.4	56.3*	44.7	X	
Gross tonnage (in thousands) of commercial vessels on order or under construction in U.S. shipyards	N/A	N/A	N/A	579	407	595	1,100*	520	X	
Students graduating with transportation-related advanced degrees from universities receiving DOT funding	N/A	N/A	N/A	N/A	1,167	N/A	N/A	1,046		
Students (in thousands) reached through Garrett A. Morgan Technology and Transportation Futures Program	N/A	N/A	N/A	71	1,031	1,502	3,000	3,000	X	
Percent share of total dollar value of DOT direct contracts awarded to women-owned businesses	2.2	3.9	2.4	4.0	3.7	4.1	4.5*	5		X
Percent share of total dollar value of DOT direct contracts awarded to small disadvantaged businesses	22.7	23.4	19.8	19.6	17.0	17.9	17.7*	14.5	X	

N/A = Not Available
* Preliminary estimate

INTERNATIONAL AIR SERVICE: Since the 1940's international air transportation has been subject to restrictive bilateral agreements that raise prices and artificially suppress aviation growth. DOT's policy is to open international air travel to market forces and remove these bilateral limitations on the freedom of U.S. and foreign airlines to increase service, lower fares, and promote economic growth. DOT does this through "Open Skies" agreements. These agreements have made it possible for the airline industry to provide better quality, lower priced, more competitive service for millions of passengers in thousands of international city-pair markets. These agreements benefit travelers throughout the world, as well as the general economies of the United States and other nations.

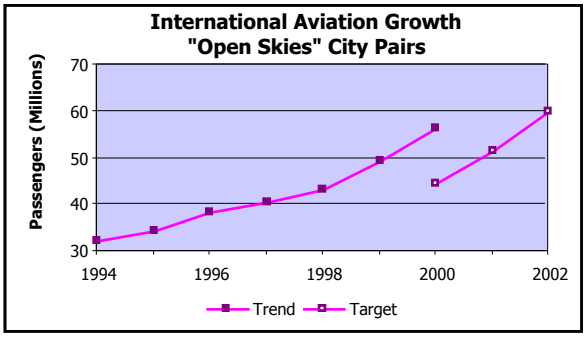
Performance measure: Number of passengers (in millions) in international markets with open skies aviation agreements.

	1999	2000	2001	2002
Target:	43.4	44.7	51.6	59.7
Actual:	49.4(r)	56.3#		

 # Preliminary estimate

(r) Revised

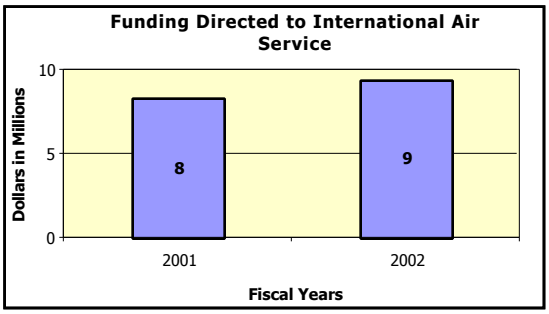
External Factors: Agreements to foster greater access are negotiated on a nation-by-nation basis, and must balance conflicting interests. Negotiating agreements and achieving passenger growth goals may be influenced by the strength of the world's economy and by regional economic cycles.



2000 Results: Based on preliminary data, DOT met the performance target. DOT added eleven new open-skies agreements – with Qatar, Tanzania, Dominican Republic, Portugal, Slovak Republic, Namibia, Burkina Faso, Ghana, Turkey, The Gambia, and Nigeria. Forty-seven nations around the globe now have agreed to "open skies" with the United States. In addition, the United States has an open "transborder" agreement with Canada.

FY 2001 Performance Plan Evaluation: The 2001 target was exceeded in 2000, and DOT has revised the FY 2002 target.

Strategies and initiatives to achieve 2002 Target: DOT resources attributable to this performance goal are as depicted below:



The domestic airline industry continues to undergo major changes, and international deregulation, which poses even more complex and controversial issues, is barely underway. Common to all of the aviation issues currently facing DOT is the need for in-depth and intensive analysis of practices, mergers, and international alliances. As the United States moves towards a multilateral approach to air service agreements, an understanding of long-term trends in the airline industry's operating and competitive structures is required to formulate effective negotiating strategies to ensure pro-competitive liberalization.

- Planning, Research, and Development: $5.2 million is requested for 2002, including $0.7 million and 6 additional staff for domestic and international aviation analysis and policy formulation.

- Additional staff in 2002 will help build a strong core of experienced analysts having broad policy backgrounds and capable of using sophisticated analytical tools to meet these challenges.

Other Federal Programs with Common Outcomes: The Department of State works with DOT in negotiations that support DOT's open skies goal.

COMMERCIAL SHIPBUILDING: Like other industries that in the past depended upon defense contracting, U.S. shipyards need to maintain commercial production in order to have a U.S. shipbuilding capability sufficient for national and economic security. U.S. Government loan guarantees assist the U.S. shipbuilding industry to develop and maintain their commercial ship production.

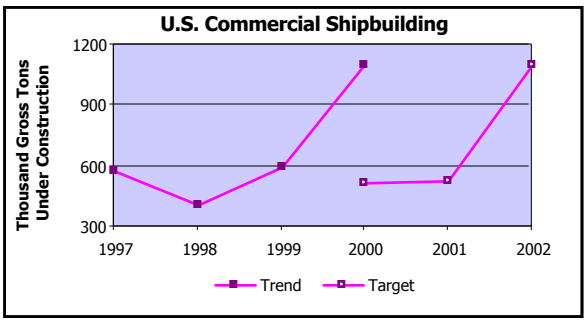
Performance measure: Gross tonnage (in thousands) of commercial vessels on order or under construction in U.S. shipyards.

	1999	2000	2001	2002
Target:	510	520	530	1,100
Actual:	595(r)	1,100#		

 # Preliminary estimate

(r) Revised

External Factors: The ongoing consolidation within the U.S. shipbuilding industry and corporate decisions by U.S. shipyards to focus on military ship construction could significantly reduce commercial ship production. Enactment of legislation that would enable foreign-built vessels to operate in the domestic U.S. waterborne trade could also affect the U.S. shipyards' ability to maintain the current level of activity.

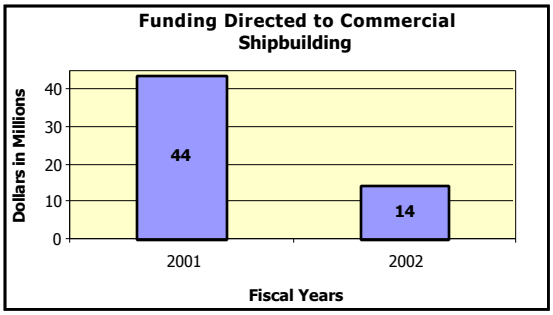


2000 Results: DOT estimates that it met this year's performance target. Preliminary data reflect the addition of several new major shipbuilding projects to the U.S. shipyard commercial orderbook, demonstrating both the improving condition and cyclical nature of the shipbuilding industry. 478,000 gross tons (GT) were added because of new construction contracts for four tankers, a car carrier and a containership. Three of the tankers are very large crude carriers (107,000 GT each) for the Alaskan crude oil trade. The new contracts represent the majority of the increase in GT between the actual CY 1999 orderbook and the current estimated CY 2000 orderbook.

During 2000, MARAD continued to emphasize timely and effective management of the Maritime Guaranteed Loan (Title XI) program to enable U.S. shipyards to increase productivity, reduce costs, and stimulate the construction of vessels in U.S. shipyards. MARAD approved 12 Title XI applications totaling over $850 million in loan guarantees. The approved projects covered the new construction of 21 vessels. All of these projects will help to maintain a U.S. shipbuilding capability sufficient for national and economic security.

FY 2001 Performance Plan Evaluation: DOT expects to meet the target this year.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



No new Title XI funds are requested in 2002, as $10 million in carryover from prior appropriations is estimated. MARAD will continue to manage the existing Title XI loan guarantee portfolio.

MARAD will participate in the development of domestic and international consensus shipbuilding standards to improve overall vessel operating safety through design enhancements. MARAD efforts in this arena are aimed at creating a "level playing field" in which U.S. shipyards could better compete by eliminating any advantages derived from less stringent shipbuilding standards and requirements overseas.

MARAD will continue to operate the National Maritime Research and Education Center (NMREC) to provide the shipbuilding industry with a central source of information, promotional support, and reference materials.

Other Federal Programs with Common Outcomes: MARAD works with the Office of the U.S. Trade Representative (USTR) and the Department of State along with other Government agencies, to end trade-distorting practices and open international markets for U.S. shipyards. Through the Title XI program, MARAD has also

partnered with other Federal credit agencies (i.e., Export/Import Bank and OPIC) to finance the export of U.S.-built vessels. Through the National Shipbuilding Research Program – American Shipbuilding Enterprise, MARAD works with the Naval Sea Systems Command to assist the shipbuilding industry in developing modern shipbuilding processes and procedures.

A by-product of constructing commercial ships in U.S. shipyards is the maintenance of a U.S. major shipbuilding base of ship repair facilities with dry-docking capability. This supports a shared goal of MARAD and DOD of having major shipbuilding and repair facilities available for both commercial and Navy shipbuilding, conversion, and repair.

TRANSPORTATION AND EDUCATION: The United States needs an educated, innovative, and highly skilled transportation workforce in the 21st century if it is to compete effectively in the global economy, and provide its people with a safe, efficient transportation system. This future outcome can be achieved only by investing now in the people who will make up our future workforce, and in research programs that will develop the tools and techniques that the future transportation system will require.

Performance measure: Number of students graduating with transportation-related advanced degrees from universities receiving DOT funding.

	1999	2000	2001	2002
Target:	--	1,046	1,203	1,215
Actual:	N/A	N/A		

N/A Not available

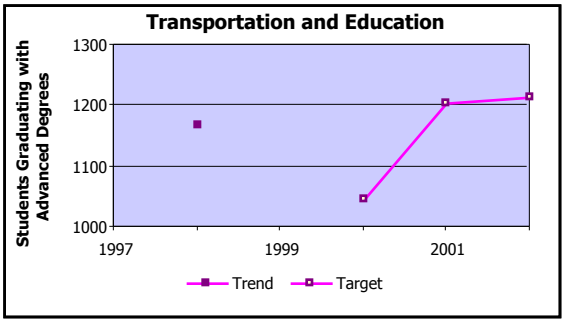
Discontinued performance measure: Cumulative number of students (in thousands) reached through the Garrett A. Morgan Technology and Transportation Futures Program.

	1999	2000	2001	2002
Target:	650	3,000	5,000	*
Actual:	1,502(r)	3,000		

**Discontinued measure after 2001*

(r) Revised

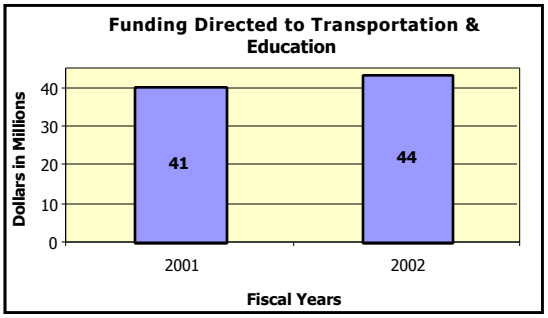
External Factors: Financial assistance is one of the most important factors in a student's selection to enroll in a particular graduate degree program. Typically, transportation programs must compete with more generously endowed programs such as those offered in biotechnology and aerospace-related fields. Graduates of baccalaureate transportation programs, especially women and minorities, tend to go directly into the job market after graduation instead of immediately pursuing an advanced degree.



2000 Results: DOT met the Garrett A. Morgan performance target. Data for the advanced degree measure are not yet available.

FY 2001 Performance Plan Evaluation: DOT expects to meet its performance target this year for the advanced degree program. DOT will have far surpassed the original Garrett Morgan goal of reaching 1 million students. Therefore, the Garrett Morgan goal will be discontinued in 2002.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



DOT will work directly with University Transportation Centers, funded by DOT grants, to develop and implement focused transportation degree programs, and with schools at all levels to expand the information available to students about the potential for careers in transportation.

- RSPA will manage 33 University Transportation Centers (UTCs), and administer $33.3 million in FHWA and FTA funding. The Centers will provide educational grants to students pursuing careers in transportation, perform basic and applied research, conduct outreach efforts for pre-college students and practitioners, and report on performance indicators for the 1999-2000 academic year.

- The Eisenhower Transportation Fellowship Program will be funded at $2 million annually to award fellowships to undergraduate and graduate students to pursue studies and degrees in the transportation field.

- The National Transit Institute at Rutgers University will receive $4 million to improve workforce performance and build professional capacity in the transit industry.

- The National Summer Transportation Institute Program will allow secondary school students to spend four weeks at Historically Black

Colleges and Universities and other Minority Educational Institutions to increase awareness of transportation-related career opportunities.

- The Summer Transportation Internship Program for Diverse Groups will provide on-site experiential transportation opportunities in DOT modal administrations for ten weeks during the summer.

Other Federal Programs with Common Outcomes: The Departments of Labor and Education have many programs focused on the U.S. workforce. This DOT performance goal complements those programs.

DISADVANTAGED & WOMEN-OWNED BUSINESS CONTRACTING: In addition to bringing products and services into the market, small disadvantaged businesses (SDBs) and women-owned businesses (WOBs) provide training and jobs for thousands of workers who are often socio-economically disadvantaged. SDBs and WOBs face special challenges in competing for Government contracts, such as access to capital, bonding assistance, and expertise in complex contracting procedures. For those reasons, SDBs and WOBs are under-represented in receiving Federal procurement contracts. For example, women own more than 35 percent of U.S. businesses, yet receive less than 2 percent of Federal contracting dollars. To address this situation, Congress has enacted several programs that rely on Federal procurement goals to increase the level of participation of WOBs and SDBs. For instance, in 1994, the Federal Acquisition Streamlining Act (FASA) established a government-wide goal of five percent of the total dollar value of direct contract and subcontract awards to WOBs. The Government has never reached this goal. DOT's SDB and WOB percentage goals are negotiated with the Small Business Administration (SBA), and are currently set at 14.5 percent and 5 percent of the total dollar value of direct contracts. DOT had the 8th largest direct Federal procurement budget based on the FY 1999 Federal Procurement Data System Report.

Performance measure: Percent share of the total dollar value of DOT direct contracts that are awarded to women-owned businesses.

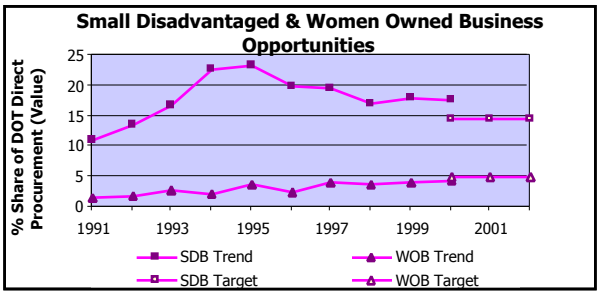
	1999	2000	2001	2002
Target:	5.0%	5.0%	5.0%	5.1%
Actual:	4.1%(r)	4.5%#		

Performance Measure: Percent share of the total dollar value of DOT direct contracts that are awarded to small disadvantaged businesses.

	1999	2000	2001	2002
Target:	14.5%	14.5%	14.5%	14.5%
Actual:	17.9%(r)	17.7%#		

 # Preliminary estimate
(r) Revised

External Factors: The most significant challenges in reaching DOT goals are the growing and appropriate government-wide practice of reducing administrative costs through contract bundling, and increasing use of credit cards in small purchases.



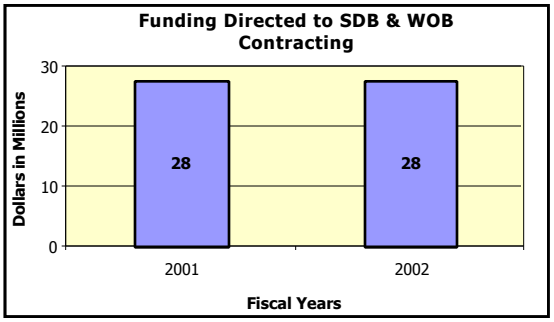
2000 Results: Based on preliminary estimates, DOT met its target for SDBs, and missed its target for WOBs, but the trend was in the right direction. SDBs received 17.7% ($335 million) and WOBs received 4.5% ($84 million) of DOT's direct procurements. Total DOT procurements were $1.9 billion. Though short of the 5.0% WOB goal, the 4.5% achievement is above the government-wide average of approximately 2.3%, and a 10% improvement over the 1999 WOB share of 4.1%.

WOBs do not have a special set-aside authority allowing them to compete in a restricted market for Federal procurements. Therefore, WOBs must successfully compete with other small businesses for small business set-aside procurements or with all businesses for full and open procurements. To assist WOBs to successfully compete, DOT and the Office of Small and Disadvantaged Business Utilization (OSDBU) conduct outreach, training and offer financial assistance.

OSDBU conducted outreach through its Transportation Equity Act Model and through Marketplace and Training Conferences. OSDBU also operates the National Information Clearinghouse that assists SDBs and WOBs to identify potential contracting opportunities. OSDBU made more electronic marketing and contract information available to WOBs, assisting them in becoming better informed on how to do business with DOT and in accessing transportation-related contract opportunities. OSDBU provided funds to the National Women's Business Council to promote and encourage women-owned businesses in procuring Federal contracts. DOT's ongoing Bonding Assistance Program and Short Term Lending Program improved WOBs' access to financing and bonding.

FY 2001 Performance Plan Evaluation: DOT expects to achieve both targets this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The Department is increasing its outreach efforts to SDBs and WOBs and the contracting community itself. DOT will work with the SBA to find ways to make it easier for contracting officers to identify and approach SDBs and WOBs as potential contractors.

DOT will utilize the historical $3.0 million outreach and technical assistance program to assist and promote small businesses in general, many of which are disadvantaged or women-owned businesses. Small business promotion will continue to be done through training, conferences, disseminating information and technical assistance.

Progress on the WOB goal will be aided in the future because of a recent DOT and SBA interagency partnership—created through a Memorandum of Understanding (MOU)—to increase the participation of WOBs in Federal procurement for both prime and subcontracting awards. DOT was the first agency to sign an MOU with SBA to do this.

Other Federal Programs with Common Outcomes: The Small Business Administration (SBA) is the lead agency overseeing government-wide goals for small disadvantaged and women-owned business contracts. The Interagency Council on Women's Business Enterprises and the National Women's Business Council have common outcomes--and thus DOT is working to establish strong working relationships with them.

Performance Goals - Human and Natural Environment

Performance Goal	Page	Data Details
Improve Community Sustainability and Livability		
Transit Service	101	202
Transit Ridership	103	202
Reduce Adverse Effects on Ecosystems		
Wetland Protection and Recovery	105	203
Improve Ecosystem Viability		
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Reduce Adverse Effects of Transportation Facilities		
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Reduce Transportation Pollution		
Mobile Source Emissions	113	206
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Maritime Oil Spills	118	208
Pipeline Hazardous Materials Spills	120	209

STRATEGIC GOAL: HUMAN AND NATURAL ENVIRONMENT

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

Transportation makes our communities more livable, enhancing the quality of our lives and our society. However, transportation generates undesired consequences too, such as pollution, noise, and the use of valuable land and fisheries. No matter how much is done to improve the capacity and efficiency of our transportation system, we cannot consider our programs to be successful unless we also manage the effects on our environment, and ultimately our quality of life.

DOT's objective is to advance the benefits of transportation while minimizing its negative environmental impacts. The Department also aims to advance government-wide goals for preserving our natural resources. The FY 2002 budget proposes $6.6 billion in environmental funding to meet this challenge – nearly 8 percent above 2001.

We Aim To Achieve These Strategic Outcomes:

- Improve the sustainability and livability of communities.
- Reduce the adverse effects of transportation on ecosystems and the natural environment.
- Improve the viability of ecosystems.
- Reduce the adverse effects of transportation facilities on the natural environment.
- Improve equity for low income and minority communities concerning the benefits and burdens of transportation facilities and services.
- Reduce the amount of pollution from transportation sources.

This section includes a Performance Progress Report for 1994-2000 describing how well we achieved the human and natural environmental goals in our 2000 Performance Plan.

This section also includes pages for each performance goal describing 2000 results and 2002 targets (goals). Alongside our 2000 results, we note if the target was met. If the target was missed but recent data show the trend responding in a good direction, we note that important result. A detailed analysis of performance results for 2000 and our strategies and initiatives for 2002 follow the Performance Progress Report.

PERFORMANCE GOAL

Improve Community Sustainability and Livability
Transit Service
Transit Ridership

Reduce Adverse Effects on Ecosystems
Wetland Protection and Recovery

Improve Ecosystem Viability
Fisheries Protection

Reduce Adverse Effects of Transportation Facilities
DOT Facility Cleanup

Improve Equity
Environmental Justice

Reduce Transportation Pollution
Mobile Source Emissions
Greenhouse Gas Emissions
Aircraft Noise Exposure
Maritime Oil Spills
Pipeline Hazardous Materials Spills

Performance Progress Report: Human & Natural Environment

	1994	1995	1996	1997	1998	1999	2000	2000 Target	Target Met	Good Trend
Percent urban population living within 1/4 mile of a transit stop with service of 15 minutes or less	N/A	N/A	11.22	11.56	11.21	11.39	11.54	11.68		X
Transit ridership in billion passenger-miles traveled	37.9	38.0	39.0	40.2	42.6	43.3	45.3	40.56	X	
Acres of wetlands replaced for every acre affected by Federal-aid Highway projects	N/A	N/A	2.3	2.6	2.2	2.3	3.8	1.5	X	
Percent change in number of species designated as overfished	N/A	N/A	N/A	N/A	N/A	N/A	9*	8		
Percent DOT facilities categorized as No Further Remedial Action Planned under Superfund Amendments and Reauthorization Act	58	67	75	74	78	90	90	82	X	
Environmental justice cases that remain unresolved over one year	N/A	2	3	3	6	5	10	10	X	
Tons (in millions) of mobile source emissions from on-road motor vehicles	76.6	67.9	66.9	65.1	63.7	61.6**	59.7**	63.5		X
Number of people (in thousands) in U.S. exposed to significant aircraft noise levels	1,900	1,700	1,500	1,300	1,100	680	448***	600		X
Gallons of oil spilled per MGS by maritime sources	N/A	6.6	7.2	1.8	3.1	2.7	4.6*	4.1		
Tons of hazardous liquid materials spilled per pipeline million TMS	0.0233	0.0132	0.0232	0.0257	0.0119	0.0229	0.0131	0.0161	X	

N/A = Not Available
* Preliminary estimate
** Projection
***See goal page for explanation

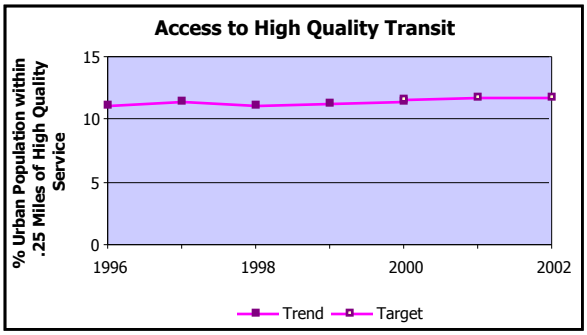
TRANSIT SERVICE: For the 80 million Americans who do not drive, public transit provides access to school, work, market, community services and family. Public transit also lessens highway congestion and helps maintain environmental quality by slowing the growth of automobile traffic. And it provides transportation alternatives. Together, these features help improve our communities.

Performance measure: Percent of urban population living within 1/4 (or .25) mile of a transit stop with service frequency of 15 minutes or less (non-rush hour).

	1999	2000	2001	2002
Target:	11.56%	11.68%	11.78%	11.87%
Actual:	11.39(r)	11.54		

(r) Revised

External Factors: The traditional commute from the suburbs into the city is becoming just one of many commuting patterns. People are moving farther away from the central cities, and jobs are increasingly located in the suburbs. The demographic shifts are often translating into longer commutes, and more scattered travel patterns.



2000 Results: DOT did not meet the performance target even though access to high quality transit service increased in 2000.

The performance results can be increased either by extending transit service into previously unserved areas or by improving the service in areas that already have transit service. Both strategies are aimed at encouraging transit-oriented residential and commercial development.

Overall system route mileage increased slightly, but the added mileage did not further the result because the service frequency exceeded 15 minutes. This is generally true for new service areas without the population density needed to justify more frequent service. However, as residential and commercial development begins to occur in areas with new transit service, the number of people with access to high-quality service in these newly served areas should increase.

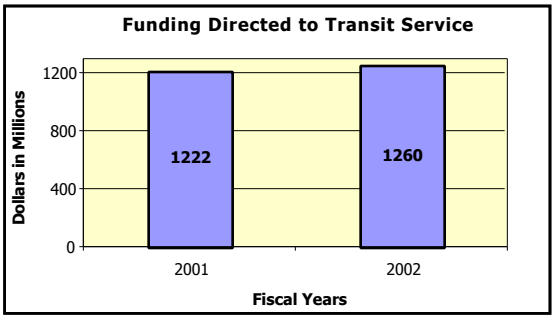
Many of the new rail systems recently coming into service have either replaced or reduced service on parallel bus lines, resulting in a relatively small net increase in coverage. Thus, these investments did not produce a significant increase in the number of people with high-quality service.

The development patterns of our country are changing slowly. States such as Oregon and Maryland have adopted land use policies that promote in-fill and a pedestrian orientation. As more states and localities adopt such policies, the percentage of the American population living within 1/4 mile of a transit stop will increase. Anecdotal evidence indicates that the efforts of FTA and other public entities and private organizations have successfully promoted more efficient land use policies.

Despite the difficulties in increasing the percentage of urban population with good transit service, FTA continued to implement initiatives that are expected to impact future achievement of this goal. TEA-21 eased some of the previous restrictions on joint development of transit stations, and FTA continues to raise awareness of this effective tool. Finally, the criteria used to evaluate New Starts projects have been modified to incorporate transit-supported land use as an important factor in project justification.

FY 2001 Performance Plan Evaluation: DOT will be challenged in meeting this year's target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT provides funding for transit infrastructure and planning, and provides technical assistance to local communities so they can better incorporate

transportation into community planning and development. Best practices in fully integrating community and transportation planning are being documented and demonstrated.

To support transportation planning, FTA will:

- Provide financial assistance to Metropolitan Planning Organizations (MPOs) and State Departments of Transportation. MPOs and States develop and implement programs to improve their own communities. ($67 million in FY 2002, 6% above FY 2001)

- Invest more in Research and Technology, focusing on the relationship between transportation and land use, developing technology to reduce travel time, and improving intermodal connections. ($49 million in FY 2002, 4% above FY 2001)

Other Federal Programs with Common Outcomes: DOT works with several other Federal agencies to coordinate transportation, housing, economic development and environmental programs. In conjunction with the Department of Health and Human Services, DOT has actively participated in a joint coordinating council that has successfully encouraged local Medicare agencies to utilize regularly scheduled transit service for medical appointments in lieu of more expensive, specialized transportation. DOT and the Environmental Protection Agency are working together to promote the Commuter Choice initiative that helps mitigate congestion and encourages transit use, and also to implement joint transportation planning and environmental guidance.

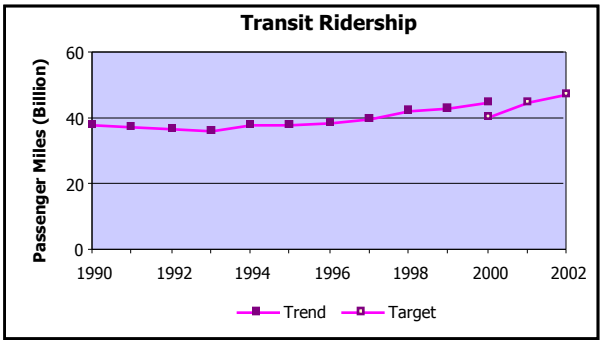
TRANSIT RIDERSHIP: Public transit offers many benefits; it is one of the safest ways of traveling, relieves road congestion, and often mitigates air pollution. To achieve these benefits, people must be encouraged to use public transit.

Performance measure: Passenger-miles traveled (in billions) by transit.

	1999	2000	2001	2002
Target:	---	40.56	44.8	47.5
Actual:	43.3(r)	45.3		

(r) Revised

External Factors: Communities are spreading farther away from the central cities, and jobs are increasingly located in the suburbs. This creates longer commutes and more scattered travel patterns. Rural areas and small communities are shifting from an agricultural to a service and manufacturing economy, creating a demand for public transportation. As more women enter the labor market, a larger share of workers will need to travel to childcare centers as well as work locations. All these factors will challenge traditional transit systems.



2000 Results: DOT met the performance target. Transit ridership and service levels continue to grow, commensurate with recent capital investments and system improvements. Capital investment levels in recent years have allowed transit operators to maintain transit infrastructure and make modest increases in the amount of transit service provided.

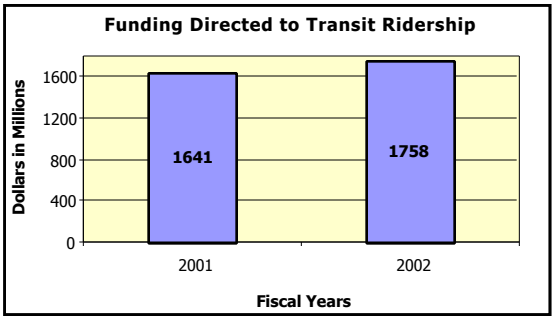
Further growth in ridership is expected as the substantial increases in Federal funding under TEA-21 are translated into new investment. Rail transit ridership growth has been particularly strong, reflecting recent expansions in the Nation's urban rail networks, both through new systems and expansions of established systems. New procurement and refurbishment of transit vehicles has improved the level of service provided on the expanding routes, as vehicle-miles have increased at a greater rate than route-miles. Transit passenger-mile growth has been stronger still, meaning that, even with the recent expansions in transit route mileage and transit vehicle mileage, transit vehicles are carrying more passengers, thus making better use of the capacity that they have. Annual transit passenger miles now exceed the goals set for 2000 and 2001.

One important factor in the increase in transit travel has been the overall strength of the economy, particularly in central business districts. While most job growth has been in suburban locations, central cities have also seen an increase in employment, and transit is particularly well suited for commuter travel to central business districts. Indeed, transit passenger-mile growth in urban areas in recent years has been on par with, and even exceeded, urban auto passenger travel.

System management improvements such as the introduction of unlimited-ride weekly and monthly passes have been another important factor in improving transit capacity utilization. By reducing the incremental cost associated with a particular transit trip to zero, such passes encourage transit usage for short, discretionary trips (such as for shopping or leisure) that would otherwise be made by taxi or private auto. The combination of a fixed fee and no additional per-ride cost encourages high-volume usage by transit riders, making transit a lifestyle choice rather than simply an occasional convenience and enabling urban residents to limit their auto usage while maintaining an active, productive, mobile lifestyle.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Since DOT's 2001 performance target has been

met, and taking into account the significant rise in ridership over the past several years, DOT has raised the 2002 performance target to reflect recent trends. FTA provides grants to States and localities to develop new transit systems and extend existing systems, and provides transportation planning assistance to ensure that public transit systems are accessible, convenient, and well managed. FTA also works to improve the safety of public transit so that it will offer a viable alternative to automobile travel. In 2002, FTA will:

- invest more than $6.6 billion (7% above FY 2001 level) in transit infrastructure to create new transit services, make transit available to more people in both urbanized and rural areas, and improve the condition of current transit services.
- provide $67 million (6% above FY 2001 level) to Metropolitan Planning Organizations and State DOTs for planning activities to ensure that new transit services are accessible, convenient, and well managed.
- participate in numerous research activities to improve train control systems and fleet management, and to attract riders. ($49 million in FY 2002, 4% above FY 2001 level)

Other Federal Programs with Common Outcomes: See the discussion in the corresponding paragraph in the Transit Service performance goal.

Management Challenge – Transit Grant Oversight (IG/GAO/OMB)

DOT grants to States and localities are a key tool to expand transit ridership. Oversight of these grants is a core management responsibility of FTA; the IG, GAO, and OMB have identified ways to improve oversight. Over the past several years, FTA has worked to continuously improve its grants management by implementing better oversight activities and exercising full use of available enforcement tools to correct grantees' noncompliance with Federal regulations. As a result, FTA is reducing the risk associated with its grants program.

2000
FTA implemented actions recommended by Congress regarding the level of project design and readiness for a full funding grant agreement (FFGA). In the 2000 New Starts report to Congress, FTA stated that it would not award an FFGA until there are "…firm funding commitments, embodied in an FFGA…", and "...until the final process has progressed to the point where costs, benefits, and impacts are accurately known…" Additionally, FTA:

- established criteria for determining whether or not an existing FFGA should be amended, or renewed altogether; and
- issued detailed guidance for capital infrastructure project financial plans.

2001 and following:
FTA will use its project management oversight contractors (PMOC) to provide monthly reports on all phases of construction of transit projects. Tracking project contract changes and costs and implementing measures to control cost will remain part of the PMOC responsibility.

To improve grantee compliance with statutory and administrative requirements, FTA will:

Reduce by five percent per year the deficiency findings per triennial and State management oversight review. (FY 1998 baseline is an average of 3.2 deficiencies per review for triennial reviews and 6.9 deficiencies per review for State management reviews.)

- In 2000, an average of 5.6 deficiencies were found in triennial reviews, FTA's reduction target for 2000 was 2.9 deficiencies per review. For State management reviews, FTA found an average of 7.3 deficiencies per review, above the reduction target of 6.2 deficiencies per review.

Reduce by five percent per year the deficiency findings per financial management and procurement review. (FY 1998 baseline is an average of 10.5 findings per review.)

- In 2000, an average of 8.3 deficiencies were found in financial management reviews; our reduction target for 2000 was 9.5 deficiencies per review. For procurement reviews, FTA found an average of 8.5 deficiencies per review, slightly above the reduction target of 8.0 per review.

Increase by 5 percent the number of deficiencies resolved within the 90-day timeframe.

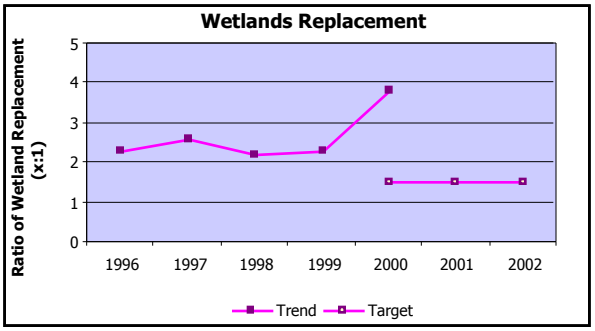
WETLAND PROTECTION AND RECOVERY:

Wetlands are an important natural resource. They provide natural filtration of pollutants, and they store and slow down the release of floodwaters, thereby reducing damage to downstream farms and communities. Wetlands also provide an essential habitat for biodiversity. But many of the Nation's wetlands have been lost to development over the years, before their value was fully recognized. Highways and transportation facilities (siting, construction, and operation) can be a significant factor affecting these ecosystems.

Performance measure: On a program-wide basis—acres of wetlands replaced for every acre affected by Federal-aid Highway projects (where impacts are unavoidable).

	1999	2000	2001	2002
Target:	1.5	1.5	1.5	1.5
Actual:	2.3	3.8		

External Factors: Wetland impacts are sometimes unavoidable, particularly in construction of bridge crossings. In addition, projects on existing alignments can cause wetlands degradation that is impractical to avoid. In areas where the concentration of wetlands is high (southern bottomlands, Midwestern prairie potholes, and eastern pine flatwoods), transportation projects often must cross wetlands to provide access to the area.

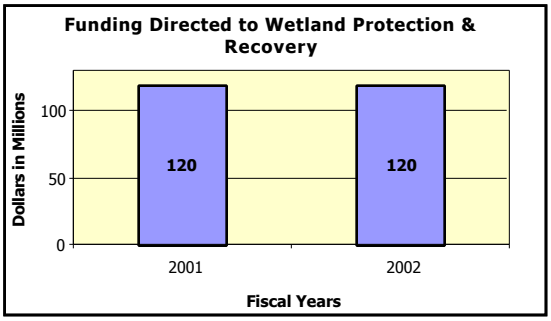


2000 Results: DOT met the performance target.

Federal-aid Highway projects avoid impacting wetlands wherever possible. Estimates of total wetland loss indicate that, between 1982 and 1992, approximately 160,000 acres of wetlands per year were being converted to other land cover types by all sources of impacts. During that same period, only about 75,000 acres of wetlands were being restored or created each year—a deficit of about 85,000 acres per year. After 1992, an additional 68,000 acres per year have been restored or established as the result of the Wetlands Reserve and other new wetland conservation programs. FHWA programs contributed an average of 4,735 acres to this annual total between 1996 and 2000, representing about 3% of the estimated total nationwide wetland replacement (most of which comes from restoration of agricultural lands). The acreage suggests that the project eligibility and funding provisions for wetland mitigation in TEA-21 have been effective in enhancing the natural environment. Performance targets will remain steady, since they represent an agreed-upon exchange ratio for mitigating construction impact on wetlands.

FY 2001 Performance Plan Evaluation: DOT expects to achieve the performance target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT promotes the construction, maintenance, and use of transportation projects that are compatible with national environmental objectives and that conform to the Clean Water Act. It does this primarily through research, new technologies, analytical models, management training, and development of technical transfer documents. FHWA will:

- test and implement environmental analytical models to assist decisionmakers, and will continue to promote initiatives that protect and enhance ecosystems on a programmatic basis. This will include the use of inventories, partnerships with resource agencies, and practices such as wetland banking and watershed-based resource protection.

- prepare a case study report based on the results of wetland restoration associated with Federal-aid highway projects. The report will provide recommended techniques and practices to minimize transportation impacts on wetland functions and values.

- support additional R&D to continue the development and implementation of new wetland protection and enhancement techniques.

Amtrak, working with the Corps of Engineers, assesses wetland effects and pays the Corps a fee that covers the conversion/purchase of 1.5 times what was taken. FRA oversees this process.

FTA ensures that grantees restore the functional value of any wetlands that are degraded.

Other Federal Programs with Common Outcomes: The Department coordinates wetland programs and research initiatives with EPA; the Departments of Interior, Commerce, and Agriculture; and the Army Corps of Engineers. FHWA is a member of the Federal Working Group on Wetlands and participates in joint research studies with other Federal agencies on wetland evaluation and mitigation. Information is shared through all these activities.

FISHERIES PROTECTION: The U.S. Exclusive Economic Zone (EEZ), the largest in the world, covers 3.36 million square miles of ocean, and provides a livelihood for commercial fishermen, a vast supply of food, and recreation. Commercial and recreational fisheries contribute about $50 billion annually to the U.S. economy. The Sustainable Fisheries Act (SFA) of 1996 mandates a reduction in the number of over-fished stocks. Responsible management and enforcement of ocean resource management regimes is of critical importance as demand for fish protein grows.

Performance measure: Percent change in number of species that are designated as overfished (includes only the areas where Coast Guard has enforcement responsibility in fisheries management plans).

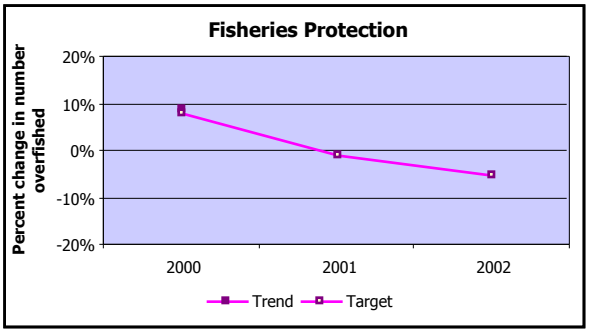
	1999	2000	2001	2002
Target:				
Original	N/A	-8%	1%	#
Revised	N/A	8%	-1%	-5%
Actual:	N/A	9%*		

**Preliminary results based upon draft NMFS report.*

#See note below on the revised measure

Note on Revised Measure: The signs have been changed on the percentage targets to make interpreting planned and actual performance more straightforward. Positive numbers indicate an increase in overfished stocks, and negative numbers indicate a reduction in overfished stocks, which is what we seek. DOT is revising the target for 2002 accordingly.

External Factors: Maintaining fish stocks is a complex management challenge. There are many factors that influence the viability of fish stocks, but the Coast Guard influences only one of these factors through at-sea enforcement of management plan regulations. The economic health of the fishing industry, especially as stricter fishing limits are imposed, may create pressure to fish beyond those limits. Environmental factors may affect the health of the fish stocks either positively or negatively. Also, errors in scientific estimates may affect both the fisheries management plans and the measure of success.



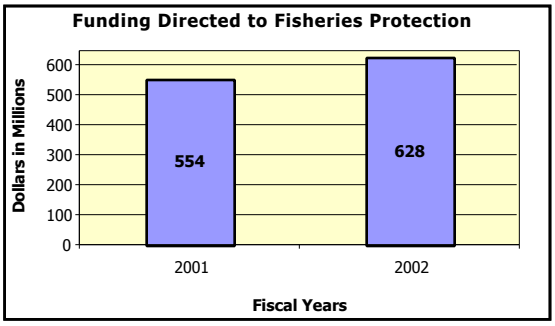
2000 Results: DOT did not meet the performance target. Under SFA, the National Marine Fisheries Service (NMFS) works toward fisheries sustainability, and reports on the number of fish stocks "over-fished" or "approaching over-fished" status.

A nine percent increase in overfished species was very close to the eight percent goal. This increase reflects a stricter definition of overfishing in the Sustainable Fisheries Act and not necessarily a sudden decline in the biomass of stocks. NMFS continues to assess fish stocks under the new definition, and as such it is possible that a few more species may be added to the overfished list in 2001.

NMFS' draft 2000 Report to Congress lists 107 fish stocks as overfished. This represents an increase of nine overfished stocks over last year. The Coast Guard has enforcement responsibility for 91 of these 107 stocks, and the remaining 16 stocks are managed and enforced separately by NMFS.

FY 2001 Performance Plan Evaluation: Given recent results coupled with reductions in Coast Guard's operational tempo, DOT will be challenged to meet this year's target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT aims to help achieve the fisheries goals by enforcing NMFS regulations and those specified in regional fisheries management plans. In developing fisheries management strategies (with input from the Coast Guard), NMFS has identified enforcement of regulations as critical in maintaining the viability of fisheries and improving the

health of overfished stocks. The Coast Guard monitors these regulation compliance rates, and is also working with NMFS to implement a Vessel Monitoring System (VMS). VMS will not replace patrols; it cannot detect illegal nets or undersize catch, but it is an effective way to monitor closed fishing areas.

In 2002, the Coast Guard will:

- Begin acquiring a new system of surface, air, command and control, intelligence, and logistics systems to carry out law enforcement, essential to any at-sea law enforcement effort.
- Monitor high threat areas, intercepting suspects that are detected, and stop violations in progress.
- Enforce regulatory measures regarding ballast water management and examine alternatives.
- Implement the Atlantic Protected Living Marine Resources Initiative and implement initiatives to reduce ship collisions with whales.

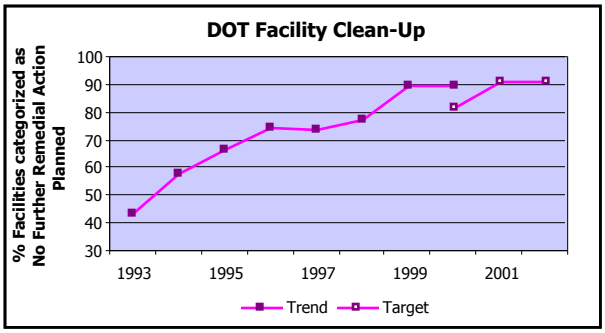
Other Federal Programs with Common Outcomes: The NMFS and the Coast Guard play major and complementary roles in achieving the national goals of the Sustainable Fisheries Act of 1996. NMFS conducts scientific assessments of stock health, oversees development of regional fisheries management plans to sustain that health, and conducts shoreside enforcement of regulations. The Coast Guard provides at-sea enforcement. The Coast Guard partners with NMFS and the regional fisheries councils to coordinate activities and provide expertise on enforcement issues.

DOT FACILITY CLEANUP: As a lead agency for environmental programs, DOT has a special responsibility to ensure that its own facilities are compliant with environmental laws and regulations. Restoration activities involve identifying, investigating, and cleaning up contaminated sites. Compliance activities include the operation of facilities, equipment, and vessels in accordance with environmental requirements. Pollution prevention activities involve preventing future cleanup activities by avoiding the generation of pollutants in our operations or facilities.

Performance measure: Percentage of DOT facilities categorized as No Further Remedial Action Planned (NFRAP) under the Superfund Amendments and Reauthorization Act (SARA).

	1999	2000	2001	2002
Target:	80%	82%	91%	91%
Actual:	90%	90%		

External Factors: Future progress may be slower as the remaining sites, although progressively lower in risk, are often larger and more difficult to clean. The Environmental Protection Agency (EPA) has the authority to reactivate previously NFRAP sites, and new sites may be identified. Also, requirements may change as laws and resulting regulations change to reflect new research and findings.



2000 Results: DOT met the performance target.

The Coast Guard continued remediation at LORAN Station, St. Paul, AK; Support Center Elizabeth City, NC; and Support Center Kodiak along with other smaller sites. The Coast Guard also made progress on the aids to navigation battery recovery program and commenced the long process of removing polychlorinated biphenals from its decommissioned vessel fleet.

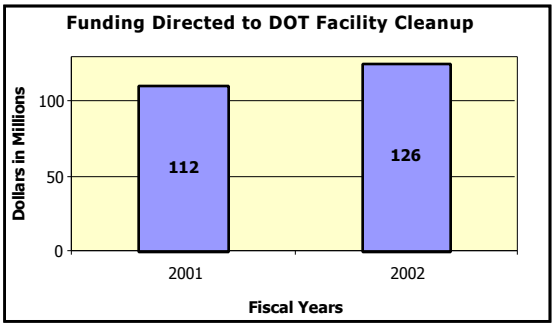
The FAA progressed in remediating their facilities in 2000, achieving NFRAP status for four additional facilities. Sixty-four of the 68 facilities on the Docket have now been categorized as NFRAP (94%). The remaining four facilities are in process of remediation or are awaiting EPA determination of NFRAP status. Most of the facilities on the Docket are located in the Alaskan Region, where 59 of the 60 listed facilities have achieved NFRAP compliance. The FAA has completed characterization and assessment studies for 24 of the 25 areas of concern. Preliminary assessment and site investigation activities are underway at the remaining area of concern where mercury contamination was recently discovered.

FRA has four designated facilities. EPA has determined that no further remedial action is necessary at two of these facilities, and two formerly government-owned facilities are being remediated. Cleanup of contaminated soil at one was completed on September 16, 1999. Efforts are continuing to determine the nature and extent of contamination at the second facility.

FHWA has one designated facility. EPA has determined that no further remedial action is necessary at this site. However, due to contamination in the source area, additional field work was required by the State. FHWA agreed to implement an interim measure to attempt to control migration of contaminants from the source area.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year, but progress beyond the 90% level will be challenging.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Facility cleanup will comply with the Superfund Amendments and Reauthorization Act (SARA) process and the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan. A "worst first" prioritization system is used to assign highest priority to those facilities representing the greatest potential hazard to the public

health and the environment. Regulatory factors at the local, State, and Federal levels are also considered in the decision-making process.

- The Coast Guard will spend $17 million to continue remediation activities at major sites in Base Kodiak, AK; Air Station Elizabeth City, NC; and Air Station Cape Cod, MA; along with other smaller sites. The Coast Guard will also continue aids to navigation battery cleanup at sites throughout the United States and removal of PCBs from Coast Guard cutters.

- The FY 1996 National Defense Authorization Act, Uniform National Discharge Standards (UNDS) require discharge standards and equipment installation for 39 liquid discharges into U.S. waters by all Coast Guard vessels. The Coast Guard will promulgate discharge standards by December 2001.

- FAA funds pollution prevention; complies with occupational safety, health and environmental regulations; promotes good energy management practices; and conducts environmental impact analyses ($28.4 million). Cleanup activities in compliance with mandatory schedules are ongoing in the Alaskan Region, the Mike Monroney Aeronautical Center, and the William J. Hughes Technical Center ($23.7 million). FAA will also replace outdated fuel storage tanks at the end of their normal life-cycle with newer, higher standard tanks; register and test in-service tanks; and investigate, remove or clean tanks at decommissioned facilities ($9.3 million).

- FRA will continue to work with the Department of Justice to resolve State issues at the two formerly owned facilities in Alaska.

- FHWA will continue work at one facility to meet the legal requirements of the involved State.

Other Federal Programs with Common Outcomes: DOT performance in facility cleanup is based on EPA standards and is in line with government-wide efforts under SARA.

Management Challenge – Ship Disposal (IG/GAO)

Ship disposal is a management challenge separate from DOT's goal to clean up its shore facilities. The Maritime Administration (MARAD) is required by law to dispose of obsolete ships in the National Defense Reserve Fleet (NDRF) by the end of FY 2006. As of December 2000, 115 ships await disposal.

New legislation effective at the start of FY 2001 removed the requirement to maximize financial returns to the Government from the sale of obsolete NDRF vessels for scrap disposal. In FY 2001, Congress appropriated $10 million to pay for ship disposal and MARAD plans to scrap at least three vessels. The new authority and funding provide an opportunity to scrap NDRF vessels in the poorest condition. MARAD will employ a General Agent during FY 2001 to facilitate the timely disposal of vessels. The General Agent, utilizing approved commercial prime/subcontracting procedures, will be tasked with employing those procedures to accommodate environmental compliance, provide oversight at the shipping facility, and control costs.

In addition to scrapping at least three vessels during FY 2001, MARAD intends to task the General Agent to solicit option bids for disposal of more of its vessels in the poorest condition in order to avoid environmental problems or having to drydock obsolete ships.

MARAD is also developing a long-term scrapping program plan. A description of this program is due in a report to Congress in the spring of 2001. MARAD will make subsequent progress reports to Congress every six months.

In FY 2002, MARAD plans to continue the scrapping efforts at the same levels begun in FY 2001. MARAD also intends to continue to solicit option bids for disposal of additional vessels. With ship disposal funding held constant in FY 2002 at the $10 million level, MARAD may need to begin drydocking some of the vessels in worst condition to prevent environmental damage while they await final disposal. Drydocking and fuel removal could cost upwards of $900,000 or more per vessel.

During FY 2002, MARAD also plans to evaluate the effectiveness of ongoing ship scrapping efforts.

ENVIRONMENTAL JUSTICE: Executive Order (EO) 12898 directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations. The EO and accompanying directives emphasize that agencies should use existing laws, such as the National Environmental Policy Act (NEPA) and Title VI of the Civil Rights Act of 1964, to achieve this mission. DOT's Environmental Justice (EJ) policy is to promote the principles of EJ through their incorporation in all DOT programs, policies, and activities.

Performance measure: Percent of EJ cases that remain unresolved after one year.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	40%
Actual:	29%	56%		

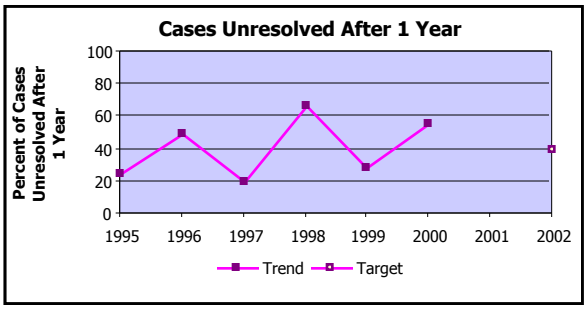
Discontinued performance measure: Number of EJ cases that remain unresolved after one year.

	1999	2000	2001	2002
Target:	12	10	4	*
Actual:	5(r)	10		

(r) Revised

** Discontinued measure after 2001*

External Factors: Prompt resolution of EJ/Title VI complaints is an important part of meeting EJ objectives, but is complicated by lack of Federal statutory protections for people on the basis of income, as well as the problem of making a direct link between the cause and the harm. There is also the problem of trying to determine whether a planning decision has been made on the basis of economics or is a case of intentional discrimination.



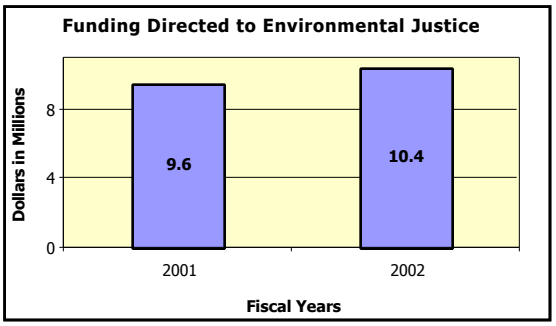
2000 Results: DOT met the performance goal. However, the percent of unresolved cases increased between 1999 and 2000. Beginning in 2002, DOT will measure the percentage of EJ cases that remain unresolved after one year. DOT believes that this more accurately depicts the resolution of outstanding EJ cases. A factor that has complicated the speedy resolution of EJ cases is the long planning process of transportation infrastructure projects -- 20 years or more. The point where third parties seek to intervene in such processes by making EJ allegations varies, and can lead to lengthy resolution efforts. Investigation and resolution of issues often has involved mediation between multiple parties.

Quantification of the adverse effects of transportation projects on minority and low-income communities, determining causality of effects, and showing disproportionate civil rights impacts have proven difficult. Alternative dispute resolution does not always succeed because of the hardening of positions of the non-DOT parties.

Activities included stakeholder partnership meetings with civil rights and environmental activists, and metropolitan planning organization and governmental representatives in the Atlanta, Georgia area. This model effort included development of an equity analysis and public participation workplan in response to a threat-to-sue letter on Clean Air Act grounds that included EJ issues.

2001 Performance Plan Evaluation: DOT does not expect to meet the performance target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT works with stakeholders and officials at the State, regional, and local levels to ensure environmental justice concerns are integrated into the transportation planning process. To counter the factors that delay resolution, DOT employs two strategies: 1) emphasizing public involvement by minority and low income communities at a very

early stage of transportation project planning; and 2) encouraging improved analysis by metropolitan planning organizations (MPOs) and State DOTs of the potential equity impacts of transportation projects.

DOT will educate stakeholders, provide Title VI training, and ensure public participation in the concept stage -- before project designs are chosen -- by reaching out to potentially affected populations.

DOT will continue to work with transportation authorities, and environmental and community groups in the Atlanta area to address EJ concerns, and low income and minority service needs, in regional transportation planning. Atlanta offers a possible model approach to EJ issues and concerns.

Other Federal Programs with Common Outcomes: DOT works with other agencies to share expertise and resolve jurisdictional overlaps and duplications, principally through the Interagency Working Group, chaired by EPA. Crosscutting efforts with other related Federal programs are coordinated through meetings of the Interagency EJ Working Group.

DOT performance measures and annual targets have not been coordinated with the other agencies because DOT has developed its EJ initiatives differently, and often in advance of, other agencies. However, treatment of goals on specific cases has been coordinated with other involved agencies such as HUD and DOJ. In addition, DOT has provided assistance to other agencies, such as the Department of Defense, EPA, and HUD.

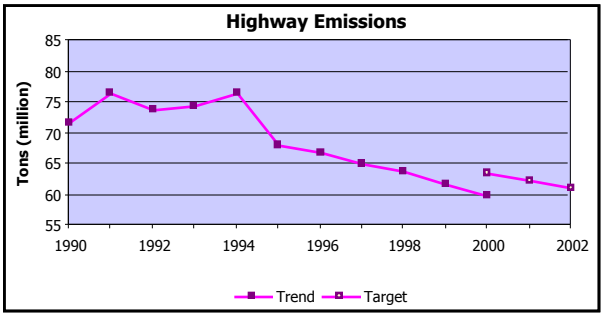
MOBILE SOURCE EMISSIONS: The National Ambient Air Quality Standards target six major pollutants as among the most serious airborne threats to human health. Transportation is a major contributor to some of the pollutants, particularly ozone, carbon monoxide and particulate matter. About two-thirds of transportation-related emissions come from on-road motor vehicles. 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 Government works to mitigate this negative impact.

Performance measure: Tons (in millions) of mobile source emissions from on-road motor vehicles.

	1999	2000	2001	2002
Target:	64.9	63.5	62.2	61.1
Actual:	61.6#	59.7#		

 # Projected

External Factors: Growth in the U.S. economy has translated into annual growth in vehicle-miles traveled (VMT). The principal component—private vehicles—provides flexibility to consumers. So diversion of users to other, more emission-efficient modes must be balanced with market choice and other economic factors.



1999 Results: 1999 actual data are still not available. Mobile source emissions from on-road motor vehicles fell to 63.7 million tons in 1998, a decline of slightly more than 2 percent from the 1997 level, meaning that DOT's 1999 target was met in 1998. Therefore, based on the historical trend, DOT most likely met the performance target.

2000 Results: Data for 2000 are not available. Projections from historical trends indicate that DOT most likely met the performance target. (We expect to receive 2000 data from EPA by the end of 2001.)

EPA revised the methodology used to define mobile source emissions in 2000 to reflect higher emissions produced by some heavy-duty diesel trucks during high-speed operations. A change in the overall mix toward heavier vehicles could impact the final performance data, when it becomes available.

A high percentage of the non-attainment and maintenance areas showed positive results in 1999. Ninety-eight percent of ozone non-attainment and maintenance areas met their mobile source emissions budgets, as did 96 percent of areas for carbon monoxide and 100 percent of areas for particulate matter (PM-10).

The strong economy supported the steady purchase of new bus, truck, and passenger vehicles with emission-efficient technologies, replacing older, more polluting vehicles. Although there has been a substantial increase in alternative-fuel vehicles since 1992, these accounted for only 400,000 out of the 200 million vehicles on the road in 1998.

Through the Congestion Mitigation and Air Quality Improvement (CMAQ) Program and clean fuels programs, FHWA and FTA provided funding for State and local governments to encourage the use of alternative-fuel vehicles. Since its inception in 1991, CMAQ has provided funding to State and local governments for many other transportation projects, in addition to alternative fuel projects, that provide air quality benefits. While individual projects yield small benefits, taken together CMAQ-funded projects have helped non-attainment areas meet their mobile source emission budget.

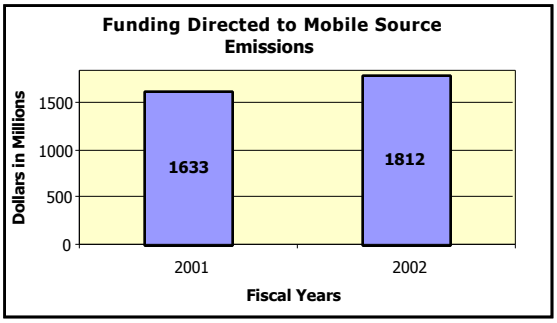
A multi-year Public Information Initiative on Transportation and Air Quality, jointly funded by the Department of Transportation (the Federal Highway and Transit Administrations) and the Environmental Protection Agency (EPA), was launched in 1997 to help State and local governments meet their clean air goals under TEA-21 and the Clean Air Act. In 1999, the initiative was expanded to 14 additional communities and came to full fruition in 2000. Areas received Federal support in the form of research, advertising and resource materials, an orientation workshop, and limited funding. Evaluation of these demonstrations is underway. The initiative has generated requests for program materials from 60 communities nationwide interested in local customization and distribution.

FHWA and FTA also assisted in the formation of

the Alliance for Clean Air and Transportation, a national alliance of more than 20 public and private organizations to support an education program to reduce traffic congestion and improve air quality.

FY 2001 Performance Plan Evaluation: Barring unforeseen shifts in external factors, DOT expects to meet the target this year.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



DOT aims to reduce mobile source emissions by encouraging the use of less polluting transportation; designing and implementing infrastructure that reduces congestion and emissions; researching and modeling the emissions impacts of investment choices; and supporting the development of fuel- and emission-efficient vehicles.

- FHWA will invest $1.7 billion to reduce emissions through the CMAQ program. FHWA will work with State and local partners to insure that no CMAQ funds lapse and that all are obligated in a timely fashion.

- FHWA will identify and help resolve challenges in implementing amended conformity regulations for clean air by issuing guidance and providing technical assistance.

- Through continued research, FHWA will develop approaches to improve air quality and to evaluate emissions impacts and the cost-effectiveness of transportation strategies ($500,000). Activities include research on a 2.5-micron particulate matter emission model to support new National Ambient Air Quality Standards.

- FTA will invest $100 million in new transit technologies through the Clean Fuels program.

- Investment in transit and rail infrastructure provides a secondary contribution to reducing mobile source emissions, to the extent that public transportation is substituted for private vehicle travel.

Other Federal Programs with Common Outcomes: DOT efforts support the government-wide goals for National Ambient Air Quality Standards. DOT works closely with the EPA to achieve the national clean air goal including reducing mobile source emissions. DOT and EPA work cooperatively to implement a number of initiatives, including the Transportation and Air Quality public education initiative, the transportation conformity regulation, and the CMAQ Program. DOT and EPA have also jointly funded a number of research efforts that target the reduction of mobile source emissions.

GREENHOUSE GAS EMISSIONS: The atmospheric accumulation of carbon dioxide (CO_2) and several other greenhouse gases (GHG) affects the re-emission of absorbed solar radiation and may have negative consequences for the human and natural environment. During the twentieth century, annual emissions of CO_2 from human activity rose by a factor of ten. During the next half-century, they are projected to grow by another factor of two or more. Transportation currently accounts for about one-third of CO_2 emissions, or 26% of total greenhouse gas emissions, from human activity in the United States. The impact of these trends is being studied globally.

Performance measure: Metric tons (in millions) of carbon equivalent emissions from transportation sources.

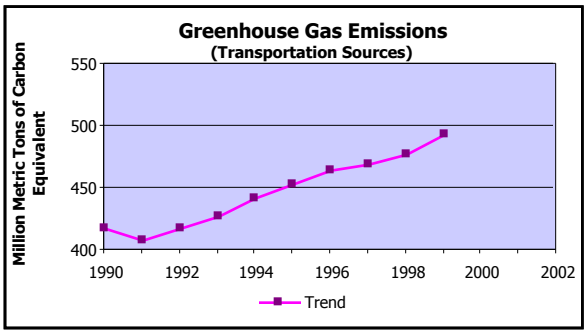
	1999	2000	2001	2002
Target:	N/A	N/A	N/A	*
Actual:	492.8#	##		

** Suspended performance measure*

 # Preliminary estimate

Data not available

External Factors: Greenhouse gas emissions from the transportation sector are growing significantly faster than overall U.S. greenhouse gas emissions. In the past several years, low fuel prices tended to reduce demand for less GHG-intensive vehicles and fuels. Simultaneously, the United States experienced growth in travel.



2000 Results: Although 2000 data are not available, data for 1999 show that greenhouse gas emissions continue to increase, mainly due to a strong and growing economy. Overall, 1999 greenhouse gas emissions increased 0.9 percent from their 1998 level, but below the average growth of the 1990s (1.2 percent). Transportation-related greenhouse gas emissions, however, increased by 3.4% in 1999 compared to 1998. The transportation sector accounted for 493 million metric tons of carbon equivalent, nearly one-third of all carbon dioxide emissions and 26% of total greenhouse gas emissions in 1999.

Through the Congestion Mitigation and Air Quality Improvement program (CMAQ), FHWA and FTA provided funding to State and local governments to improve air quality and reduce traffic congestion. Investment in such programs as traffic flow improvement, shared ride and demand management, mass transit, and pedestrian and bicycle programs should help reduce the amount of transportation-related greenhouse gas emissions. FY 2000 contract authority for CMAQ was $1.6 billion.

FY 2001 Performance Plan Evaluation: No target level was established.

This measure is being suspended after 2001 because there is no target yet for the transportation component of the overall reduction amount.

AIRCRAFT NOISE EXPOSURE: Public concern and sensitivity to aircraft noise around airports is high. In recent years, noise complaints have increased even while quieter aircraft technology has been introduced. Aircraft noise is an undesired by-product of our mobility, and the Government acts to reduce the public's exposure to unreasonable noise levels.

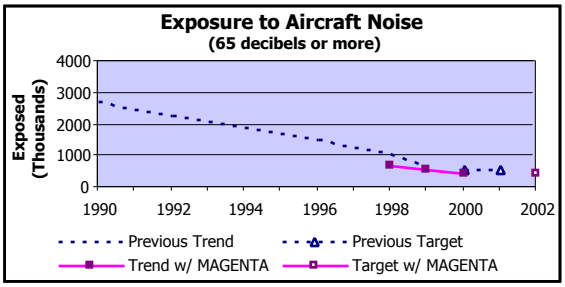
Performance measure: Number of people in the U.S. (in thousands) who are exposed to significant aircraft noise levels (65 decibels or more).

	1999	2000	2001	2002
Target:				
Original	680	600	600	N/A
Revised	N/A	N/A	N/A	448#
Actual:				
Original	680(r)	Not available		
Revised	585	448		

 # This target will be revised after further analysis of the new measurement methodology is completed, including updated operational forecasts and 2000 Census data.

(r) Revised

External Factors: Much of the recent progress has been achieved by the legislatively mandated transition of airplane fleets to newer-generation aircraft that produce less noise. Most of the gains from this change were achieved by 2000. The Airport Noise and Capacity Act (ANCA) of 1990 set December 31, 1999 as the deadline for elimination of Stage 2 (older, noisier) aircraft weighing more than 75,000 pounds. Population growth around airports or increasing flight activity can impact FAA's ability to meet this goal. These factors have generally increased the numbers of people potentially exposed to aircraft noise. A positive factor in lowering noise exposure has been aircraft fleet recapitalization within the industry.



2000 Results: DOT appears to have met the performance target, since trends apparent in both measurement methodologies are moving in the right direction. The results reflect using a new, more accurate methodology to assess the number of people exposed to significant levels of aircraft noise around airports, known as MAGENTA. The model development has been done in conjunction with the Committee on Aviation Environmental Protection (CAEP) under the International Civil Aviation Organization (ICAO).

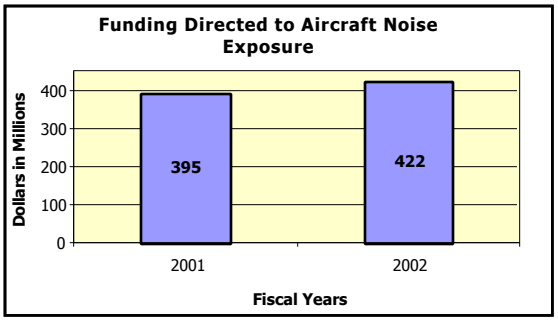
Updated airline fleet data for 1999 indicate a higher than expected introduction of airplanes that have been "hushkitted" to comply with the Stage 3 noise standard. At the end of 1999, airplanes that met the most stringent FAA noise standard (Stage 3 airplanes) comprised 100 percent of the total fleet of large civil subsonic turbojet airplanes, compared to an estimated 45 percent in 1990 when Congress enacted ANCA.

Activities in 2000 included funding for noise reduction activities such as the soundproofing of residences and buildings used for educational or medical purposes in the vicinity of airports, the purchase of buffer zones around airports, and noise reduction planning.

The FAA, representing the United States, was successful in achieving agreement at the fifth meeting of CAEP (CAEP/5) on a new international noise standard for subsonic jets and propeller-driven large transports. The new standard, which would become effective in 2006 when approved by the ICAO Council, is cumulatively 10 decibels more stringent than the current standards ("Stage 3").

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT pursues a program of aircraft noise control in cooperation with the aviation community through noise reduction at the source (development and adoption of quieter aircraft), soundproofing and buyouts of buildings near airports, operational flight control measures, and land use planning

strategies. In 2002:

- The FAA's Airport Improvement Program will continue to provide funds for such noise reduction activities as the soundproofing of residences and buildings used for educational or medical purposes near airports, purchase of buffer zones around airports, and noise reduction planning ($394 million).

- The FAA will continue to develop noise research and assessment technologies ($1.2 million).

- FAA Air Traffic Services will implement operational flight control measures to help reduce neighborhood exposure to aircraft noise.

- FAA will continue to examine and validate the methodologies used to assess aircraft noise exposure ($2.7 million).

- DOT will develop a research plan and program for international certification noise standards for turbojet airplanes that will be more stringent than the current Stage 3 standards.

- Also, in cooperation with the National Park Service, FAA will assess noise exposure at, and develop Air Tour Management Plans for, an estimated 45 national parks, as authorized in AIR-21. This is distinct from the issue of noise exposure around airports ($14 million).

Other Federal Programs with Common Outcomes: FAA has been engaged with NASA in joint noise reduction technology research. The research objective is to identify technological concepts to reduce community noise impact of future subsonic jet airplanes by half (7 to 10 decibels), relative to 1992 technology.

MARITIME OIL SPILLS: A large share of the U.S. economy is fueled by oil. Over half the oil used in the United States today is imported, and most of the imported oil is carried in tankships. Furthermore, with offshore drilling occurring further offshore, and larger cargo and tank ships plying the oceans, the task of preventing oil spills will become even more challenging. Oil spills can devastate ecosystems and can incur enormous response costs. The *New Carissa* typifies the threat posed by cargo ships. The vessel carried 359,000 gallons of molasses-like bunker oil as engine fuel and 37,000 gallons of diesel fuel for running generators. An estimated 70,000 gallons of oil spilled from the *New Carissa* in February 1999 when the ship foundered off the coast of Oregon, costing more than $10 million to clean impacted shoreline.

Performance measure: Gallons spilled per million gallons shipped by maritime sources.

	1999	2000	2001	2002
Target:				
Original	5.04	4.83	4.62	N/A
Revised	4.3*	4.1*	4.0	3.6
Actual:				
Original	2.87(r)	Not available		
Revised	2.7	4.6#		

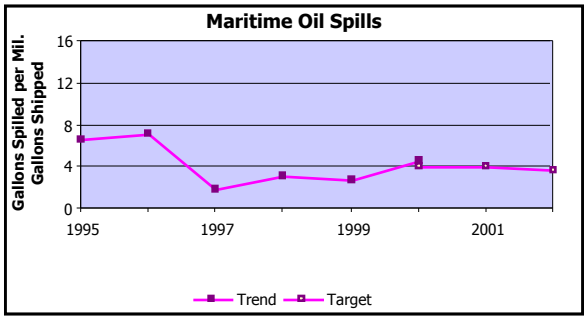
** Equivalent to the previous targets*

(r) Revised

 # Preliminary estimate

Note on Revised Data: The Coast Guard brought a new and improved information system for its marine safety programs online in FY 2000, revising the process used to obtain data for this indicator. The revised indicator provides a more accurate depiction of oil spills over time.

External Factors: Over 90% of the oil spilled into U.S. waters results from only a few large spills. The most significant contributing factors are human error and equipment malfunction.



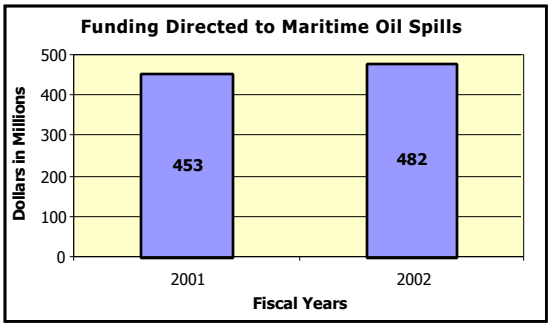
2000 Results: Preliminary data indicate that DOT did not meet the performance target. Of the total volume of oil spilled, 61% was spilled from facilities and 39% from vessels. Three large spills contributed to over 94% (537,510 gallons) of the total volume spilled from facilities. Two of these spills were from waterfront facilities and were the result of a storage tank rupture at a refinery and a pipeline leak within a waterfront facility.

Of the oil spilled from vessels, two large spills accounted for more than one-third of the total (130,100 gallons). One of these spills resulted when a tankbarge loading oil was overfilled, and the other was caused when a large recreational yacht sank off the coast of Puerto Rico after a Coast Guard helicopter rescued the crew.

An effort that began in 1994 to establish procedures to coordinate responses to maritime pollution incidents between the United States and Mexico culminated in the adoption of the MEXUS Plan in February 2000.

FY 2001 Performance Plan Evaluation: This year's target is within reach.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The Coast Guard acts to prevent and respond to spills, and maintains vessel traffic and aids to navigation systems to reduce the risk of accidents that may result in a pollution incident. Specific plans include:

- Leading a broad assessment of the potential risk of spills from bunker oil, pipelines, offshore operations and hazardous materials; modifying prevention programs with voluntary near-term incentives for pollution prevention; and studying the need for new mandatory measures.

- Focusing on cruise ship pollution prevention.

- Continuing to lead the U.S. delegation to the International Maritime Organization, Marine Environmental Protection Committee, improving international standards in ship design and operations.

- Re-examining response programs and improving oil spill and hazmat response readiness. An aggressive pollution exercise program as part of a National Contingency Plan preparedness strategy for dealing with a spill of national significance (SON) ($0.6 million).

Other Federal Programs with Common Outcomes: The Coast Guard is the lead agency for oil pollution prevention and response in the coastal maritime zone, while EPA is the lead for inland waters; each agency may take immediate action as first Federal on-scene coordinator. During oil and gas exploration and development, the Coast Guard partners with the Minerals Management Service in environmental protection on the Outer Continental Shelf. The National Transportation Safety Board investigates some marine casualties that result in oil spills for safety purposes in coordination with Coast Guard investigations. The Coast Guard participates in a multi-agency workgroup to establish common or complementary goals for clean water.

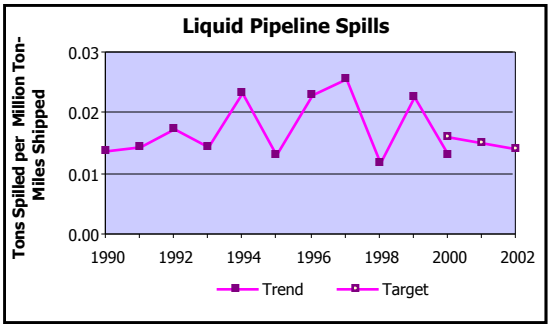
PIPELINE HAZARDOUS MATERIALS SPILLS: More than 617 billion ton-miles of petroleum and other hazardous liquids move across the country by pipeline. While this is usually the least costly way to transport these bulk cargoes, it also entails some risk. Because of the volume of liquid hazardous materials moved by pipelines, any spill into the environment is potentially a significant one. As exemplified by the gasoline pipeline incident in Bellingham, Washington, flammable liquid spills can have potentially catastrophic safety consequences.

Performance measure: Tons of hazardous liquid materials spilled per million ton-miles shipped by pipelines.

	1999	2000	2001	2002
Target:	.0171	.0161	.0151	.0142
Actual:	.0229(r)	.0131		

(r) Revised

External Factors: Prevention and mitigation of pipeline spills requires improved site-specific knowledge of water and sensitive environmental areas to provide tailored actions to prevent leaks, and, if they do occur, assure that appropriate and timely response is undertaken.



2000 Results: DOT met the performance target. DOT is analyzing the data on hazardous material spills to identify target areas where further improvements might be made. DOT is also improving incident data to make it a more useful tool to identify potential solutions for further reducing pipeline spills.

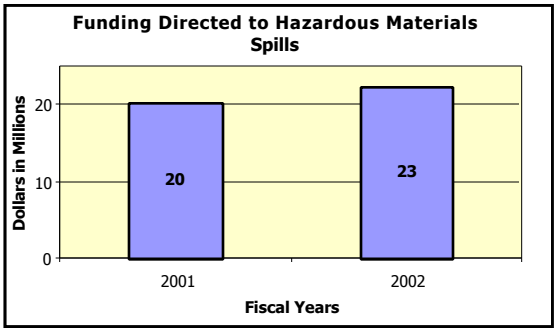
RSPA continued to work with the American Petroleum Institute (API) to pilot test the new voluntary industry pipeline information system, created with joint industry/State/Federal input and participation. The API voluntary information system will provide data on much smaller spills than captured by the current threshold for Federal spill reporting, providing better trend data, information about precursors to leaks, information about the impacts to the environment, and the effectiveness of remediation efforts.

The Office of Pipeline Safety (OPS) continued to work closely with the Coast Guard and the Environmental Protection Agency in implementing the Oil Pollution Act of 1990 as it applies to onshore oil pipelines. Efforts are aimed at decreasing the likelihood of pipeline spills, diminishing the environmental consequences of spills, and ensuring that the responses to spills are swift and well planned. Operators are required to develop response plans, test their plans in exercises, and implement their plans in actual responses.

RSPA continued to increase public awareness of one-call centers to help reduce excavation damage to pipelines and to identify areas that are unusually sensitive to environmental damage. By identifying where spills would cause the most environmental damage, RSPA is able to target its efforts to improve pipeline structural integrity and maximize the efficient use of available resources.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



DOT aims to prevent spills by working with operators to classify and address the threats of spills, particularly in environmentally sensitive areas. DOT also works to reduce the consequences of spills through a consultative process with the pipeline industry and other stakeholders, and to improve and test response plans through practical exercises. New regulatory efforts will further protect the environment by validating the integrity of hazardous liquid pipelines that could affect populated areas, commercially navigable waterways, and areas unusually sensitive to environmental damage.

RSPA's Pipeline Safety program impacts both the DOT Safety and Environmental strategic goals. In 2002, Pipeline Safety funding includes $22.5 million for reducing liquid pipeline failures.

- RSPA will continue to work with the pipeline industry in the System Integrity Inspection program through a cooperative effort to identify each operator's highest risk pipeline segments and focus resources on those areas.

- RSPA will continue its cooperative effort to develop a nationwide map of natural gas and hazardous materials pipelines and facilities in the National Pipeline Mapping System (NPMS), including information on attributes of these facilities.

- RSPA's information, inspection, training and analysis initiatives will look toward making its risk-based strategy more effective in reducing pipeline spills.

- RSPA will review operator spill response plans, oversee field and table-top exercises to strengthen operator readiness to respond to oil spills from pipelines, and monitor major spills and remediations.

- Based on lessons learned from RSPA's Risk Management Demonstration Project initiative, RSPA will implement a Final Rule to enhance pipeline safety measures in areas sensitive to damage from hazardous liquid and natural gas transmission pipeline accidents. Effective May 29, 2001, hazardous liquid pipeline operators that own or operate 500 or more miles of pipeline are required to conduct a baseline integrity assessment of their pipelines within seven years using internal inspection, pressure testing, or other equivalent technology. The new rule requires periodic assessments at an interval not to exceed five years to assure that the condition of the line is understood and that problems can be properly addressed when they arise. The rule requires operators to integrate information from these assessments with other information about the pipeline to identify and address the integrity threats that could adversely impact the public or the environment.

Other Federal Programs with Common Outcomes: RSPA will work to reduce the frequency and the size of spills by working with the Federal Energy Regulatory Commission, the National Oceanic and Atmospheric Administration, the Department of Energy, the U.S. Geological Survey, and others that will help us analyze risks to environmentally sensitive and populated areas through finalization of a National Pipeline Mapping System. RSPA is also working with the National Association of Pipeline Safety Representatives, trade associations such as the American Petroleum Institute, and other industry partners in designing new reporting systems and data improvements.

RSPA is working with the Environmental Protection Agency, the Department of Interior, and other natural resource trustees, environmental organizations, and the public to identify drinking water and ecological resources that are unusually sensitive to environmental damage from spills. RSPA has completed the Drinking Water Data Catalog as part of an environmental index initiative and has added the catalog to the web site, http:\\ops.dot.gov.

Performance Goals - National Security

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STRATEGIC GOAL: NATIONAL SECURITY

Ensure the security of the transportation system for the movement of people and goods, and support the National Security Strategy.

Transportation provides for strategic mobility of materials and forces in times of national emergency, contributing to the Nation's security. The U.S. Department of Transportation also contributes unique Coast Guard capabilities for national defense. In the post-Cold War era, the Nation's transportation system is vulnerable to intentional harm, and our borders are subject to illegal intrusions by smugglers of contraband and illegal migrants. DOT's objective is to contribute to our national security by minimizing the vulnerability of our transportation system to disruption, damage, or exploitation through crime or intentional acts.

The FY 2002 budget proposes $1.9 billion to meet these challenges – an increase of almost 6 percent from 2001.

We Aim To Achieve These Strategic Outcomes:

- Reduce the vulnerability of the transportation system and its users to crime and terrorism.
- Increase the capability of the transportation system to meet national defense needs.
- Reduce the flow of illegal drugs entering the United States.
- Reduce the flow of migrants illegally entering the United States.
- Reduce illegal incursions into our sovereign territory.
- Increase support for United States interests in promoting regional stability.
- Reduce transportation-related dependence on foreign fuel supplies.

PERFORMANCE GOALS

Reduce Vulnerability to Crime and Terrorism
Aviation Security
Critical Transportation Infrastructure Protection

Increase National Defense Capability
Military Readiness
Sealift Capacity
Mariner Availability
DOD-Designated Port Facilities
Ready Reserve Force Activation

Reduce Flow of Drugs
Drug Interdiction

Reduce Flow of Illegal Migrants
Migrant Interdiction

Reduce Illegal Border Incursions
Maritime Boundary Incursions

Promote Regional Stability
Regional Stability

Reduce Dependence on Foreign Fuel
Energy Efficiency

This section includes a Performance Progress Report for 1994-2000 describing how well we achieved the national security goals in our 2000 Performance Plan.

This section also includes pages for each performance goal describing 2000 results and 2002 targets (goals). Alongside our 2000 results, we note if the target was met. If the target was missed but recent data show the trend responding in a good direction, we note that important result. A detailed analysis of performance results for 2000 and our strategies and initiatives for 2002 follow the Performance Progress Report.

Performance Progress Report: National Security

	1994	1995	1996	1997	1998	1999	2000	2000 Target	Target Met	Good Trend
Percent of those who need to act who receive threat information within 24 hours	N/A	N/A	N/A	N/A	N/A	41.5	43	90		
Percent of days maintain combat readiness rating of 2 or better for the designated number of critical defense assets	N/A	N/A	N/A	N/A	N/A	4	51	100		
Ship capacity (in twenty-foot container equivalent units, or TEUs) available to meet DOD's requirements	N/A	N/A	N/A	124,152	161,258	162,151	171,218	165,000	X	
Ship capacity (in million square feet) available to meet DOD's requirements for intermodal sealift capacity	N/A	N/A	N/A	12.3	14.2	14.3	15.1	14.5*	X	
Percent of total mariners available to crew	N/A	N/A	N/A	N/A	N/A	123	117	100	X	
Percent DOD-designated strategic ports available when requested by DOD	N/A	71	64	57	93	93	93	90	X	
Percent RRF no-notice activations that meet assigned readiness timelines	95	100	100	94	100	100	100	100	X	
Percent of days that RRF ships are mission capable while under DOD control	N/A	N/A	99.2	95.2	98.8	98.4	97.0	99.0		
Percent seizure rate for cocaine shipped through the transit zone	6.5	6.1	5.3	16.3	10.1	12.2	10.6	13		
Percent success rate for undocumented migrants attempting to enter U.S. over maritime routes	N/A	25.1	8.5	5.6	8.9	13.3	11	13	X	
Transportation-related petroleum consumption (in quadrillion BTUs) per trillion dollars of Real GDP in 1996 constant dollars	3.098	3.075	3.037	2.945	2.900	2.851	2.828**	2.80***		X

N/A = Not Available
* This target was corrected to maintain equivalency with the TEU target
** Projection
*** This is equivalent to the previous target

AVIATION SECURITY: The United States and its citizens remain targets for terrorist groups seeking to challenge or influence international affairs. Thus, protecting air travelers against terrorist and other criminal acts is a national security concern. Beyond national security policy, public confidence in the safety and security of air travel enables its continued growth - tourism and world economies depend upon effective aviation security measures being efficiently applied. Governments, airlines and airports must work together cooperatively to achieve our common goal: safe and secure air transportation worldwide.

Performance measure: Detection rate for explosives and weapons that may be brought aboard aircraft.

	1999	2000	2001	2002
Target:	##	##	##	##
Actual:	##	##		

Detection rates are sensitive information protected under 14 CFR Part 191. Baseline data and targeted increases will be made available to appropriate parties upon request.

External Factors: Technology and human vigilance must keep pace with the increasing sophistication of explosive devices, other weapons, and the techniques terrorists or other criminals may use to threaten air travel. At the same time, the speed of processing passengers and baggage through screening checkpoints and other security measures must improve to accommodate the rapid growth in passenger traffic. These challenges must be met while protecting civil liberties.

2000 Results: DOT did not meet this year's performance target. Detection rates of simulated explosive devices and weapons are a combination of screening technology and human operator performance. The technology is functioning well and provides superior security protection, but screener performance has not improved enough. Screeners continue to perform well detecting test objects representing many traditional weapons and explosives devices, but need improvement detecting test objects that represent some of the more sophisticated devices.

Use of advanced security equipment continues to grow. Checked baggage screening in airport lobbies is being replaced by installations in baggage make-up areas.

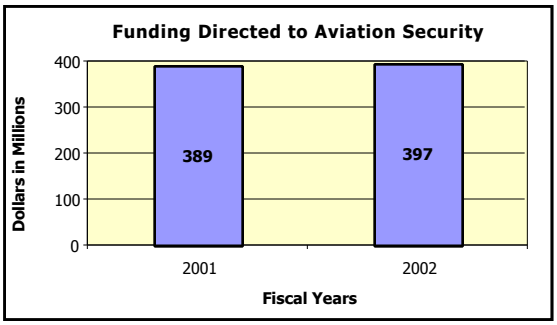
As indicated by GAO in a June 2000 report, the airport security screening workforce continues to be low-paid, has a high turnover rate, and needs to improve its performance. GAO's report supports actions taken by FAA including issuing a proposed rule to require certification of airlines' airport security screening contractors. The rule would hold companies to minimum performance standards for detecting simulated, improvised explosive devices or deadly weapons, thereby improving overall security system performance. Industry will need to make employment more attractive to effective, high performing screeners in order to meet and maintain the new standards.

FAA improved aviation security technology and practices in these ways:

- purchased a total of 138 certified explosives detection systems (EDS) and 22 other advanced technology units for screening checked baggage.
- awarded three contracts worth up to $50 million for carry-on and checked baggage explosive detection equipment. Each contract allows for purchasing up to 210 units, and 757 units have been purchased to date.
- installed 186 advanced x-rays (TRX) capable of automated screener performance testing using threat-image-projection (TIP), and over 400 computer-based training platforms to improve screener training and proficiency.
- awarded grants totaling $8.6 million to develop prototypes of a lower cost EDS, providing equivalent detection capability, but scaled to be cost effective for smaller airports.
- conducted over 15,500 regional assessments and over 4,000 screening checkpoint evaluations to evaluate and improve airport and air carrier security and dangerous goods shipping operations.

FY 2001 Performance Plan Evaluation: FAA may face a greater challenge than expected to meet the FY 2001 performance targets in some areas of screening. Widespread deployment of TRX did not occur as soon as anticipated when the target was originally set. In FY 2001, FAA will install 500 TRX devices to improve screener performance.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The greatest improvement in aviation security will come from continued development and deployment of sophisticated explosive detection technology to decrease reliance on the human operator.

FAA will continue to encourage a sense of partnership and joint responsibility for improving aviation security through the Aviation Security Advisory Committee, airport consortia, and performance-based compliance and enforcement.

- FAA will continue to develop aviation security countermeasures, and assist U.S. and foreign air carriers who provide air service to the United States. FAA will monitor and test the compliance of airports, air carriers, indirect air carriers, and shippers with security and dangerous goods requirements. ($149 million)

- FAA will purchase advanced security equipment, including explosives detection systems for checked baggage, for use at airports across the Nation. ($97.5 million)

- FAA will continue to improve human factors and technology for detecting explosive devices and weapons and to decrease the vulnerability of airports and aircraft to security threats. ($50.3 million)

Other Federal Programs with Common Outcomes: Aviation security is part of the National Security Strategy. FAA works closely with the Federal Bureau of Investigation, Central Intelligence Agency, and the State Department. FAA conducts joint airport vulnerability assessments with the FBI, and works with the U.S. Customs Service and the U.S. Postal Service to improve security for cargo and mail air shipment. FAA also works with the Bureau of Alcohol, Tobacco, and Firearms to improve the use of canines for explosives detection.

Management Challenges – Aviation Security (IG/GAO)

Maximizing the effectiveness and use of explosives detection equipment and completing pending rulemakings are efforts that FAA will continue and are among others that will implement the Airport Security Improvement Act (ASIA 2000; P.L. 106-528).

- To increase deterrence, FAA will increase the number of bags selected by underutilized explosives detection systems beginning in May 2001.

- FAA is on schedule to publish a Final Rule for Certification of Screening Companies by May 31, 2001.

- A Final Rule to require airport operators and air carriers to have compliance programs and a list of sanctions for those programs is scheduled for issuance in Spring 2001.

- FAA is working with airport operators and air carriers to expand the electronic fingerprint transmission project.

- FAA has several initiatives underway to work with airport operators and air carriers to improve access controls.

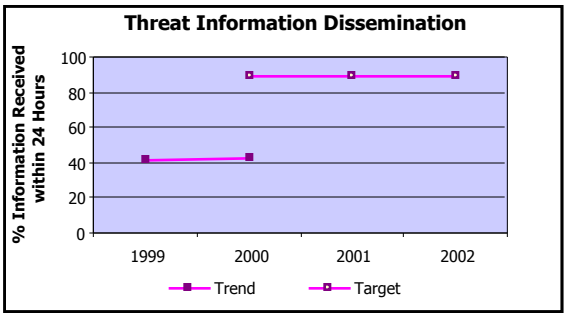
- The FAA has revised its physical security assessment schedule to ensure that all air traffic control facilities are assessed by June 2002. This new schedule is necessary in order to implement required protective measures prior to the accreditation of these facilities by April 30, 2004.

CRITICAL TRANSPORTATION INFRASTRUCTURE PROTECTION: The U.S. transportation system is one of the most developed in the world, covering a tremendous geographical area and numerous modes of travel. The system increasingly relies on information and telecommunication systems. Given our open society, this system is vulnerable to attempts to destroy or degrade its infrastructure and performance. DOT has a three-pronged approach to such attacks: 1) Through intelligence gathering and information sharing, we attempt to identify threat information and then communicate that information quickly to those who must act; 2) The Department takes proactive measures to protect DOT assets; and 3) The Department works in partnership with industry to identify and counteract infrastructure vulnerabilities.

Performance measure: Of those who need to act, percent who receive threat information within 24 hours.

	1999	2000	2001	2002
Target:	N/A	90%	90%	90%
Actual:	41.5%	43%		

External Factors: State and local agencies and businesses own and operate the majority of the Nation's transportation infrastructure. Achievement of our goal relies on increased coordination and cooperative partnerships with private industry and law enforcement, and on the willingness of industry to adjust security procedures based on threat information provided by DOT.



2000 Results: DOT did not meet the target, although some progress was made this year. DOT disseminated Transportation Security Information Reports (TSIRs) to the operating administrations three times. Only two of these distributions were measured since the third had a limited distribution to a few of the operating administrations and focused on a specific geographic area. The dissemination time and positive receipt rates of the two TSIRs resulted in an aggregated rate of 43%.

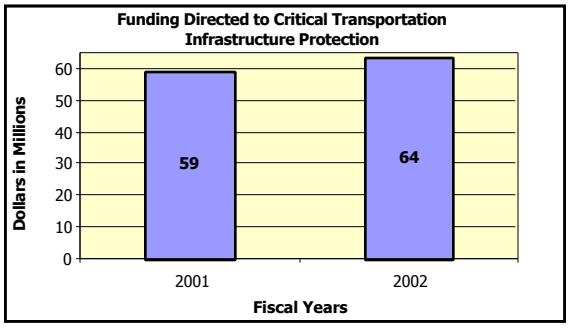
One reason the target was not met was our inability to control the timeliness of information to end-users once distribution to the operating administrations is complete. Throughout the year, feedback was given to DOT operating administrations so they could identify and correct potential problems and modify their dissemination systems. Inaccurate and dated end-user customer lists were also a problem. To address these concerns, we implemented standard operating procedures for producing and distributing TSIRs.

In September 2000, the Interagency Commission on Crime and Security in U.S. Seaports issued 13 findings and recommendations to reduce the vulnerability of ports to crime and terrorism. Among its findings, the Commission identified a need for minimum security standards or guidelines at seaports, annual threat assessments, better and more accessible data systems, and improved coordination among law enforcement agencies. DOT is developing plans to implement the recommendations within its purview.

DOT completed a master plan to protect the Department's critical physical assets and information systems in accordance with a directive on Critical Infrastructure Protection (PDD-63). FAA, Coast Guard, and the Saint Lawrence Seaway Development Corporation have critical facilities, and in 2000, FAA and Coast Guard began making security improvements. The SLSDC finished all required security improvements.

FY 2001 Performance Plan Evaluation: It appears that DOT will improve its performance, but may fall short of the performance target. We will continue to develop a more efficient system for TSIR dissemination.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



The goal and intent of Presidential Decision Directive (PDD) 63 is to reduce the vulnerability of the Nation's critical infrastructure through public-private partnership. By 2003, the Federal Government is expected to achieve and maintain the ability to protect our Nation's critical infrastructure from intentional acts that would significantly diminish the abilities of the Government to perform essential national security missions. For each major sector of our economy, including transportation, Sector Coordinator and Sector Liaison Officials are required to:

- work in partnership to assess the vulnerabilities of the sector to cyber and physical attacks;
- recommend a plan to eliminate significant vulnerabilities; and
- develop a plan (relevant to this particular performance measure) for alerting, containing and rebuffing an attack to the infrastructure.

The intelligence community is directed to collect and analyze threats to the national infrastructure, including cyber and information warfare threats, and all departments and agencies are expected to have systems and protocols in place for rapidly disseminating this information to headquarters and field personnel, and to owners and operators.

We will also improve our connections to the intelligence and law enforcement community, as well as the transportation industry, and increase our information sharing outreach, as follows:

- A full-time CIA liaison will continue work in the Office of Intelligence and Security (OIS) to improve communications with the Intelligence Community, and an OIS liaison officer will be provided to the FBI Domestic Terrorism/Counter-terrorism Planning Section to coordinate security and intelligence issues.
- DOT's Chief Information Officer Council will explore more effective information distribution alternatives. ($1.1 million)
- Using the recommendations from the September 1999 U.S. Marine Transportation System (MTS) Report to Congress and the November 2000 Interagency Commission on Crime and Security in U.S. Seaports, the Coast Guard and Maritime Administration will improve coordination and cooperative partnerships with law enforcement and industry. Key concerns of MTS security relate to organized crime and terrorism threats, and ensuring security for strategic sealift depended upon by DOD. DOT will annually evaluate both domestic and foreign passenger terminal vulnerability assessments completed by the Coast Guard. ($2.94 million)
- DOT will work with maritime, surface and air transportation security organizations such as the International Council of Cruise Lines to improve information exchange, assess vulnerabilities of information systems critical to transportation, and develop a joint analysis capability with industry.

To improve transportation security, DOT will conduct research and development studies, provide technical guidance and assistance, and conduct assessments of plans.

- FAA will continue conducting security risk assessments at staffed facilities, and will implement a Facility Security Management Program to determine the most cost-effective way to protect its employees and critical infrastructure. FAA will also further develop information security plans to prevent penetration of information systems and corruption of air traffic and operational data. FAA will also research information system intrusion detection systems, and will modify existing systems to prevent intrusion and improve information systems security. ($59.2 million)
- FTA will work to ensure the safety of public transit by auditing the security of transit systems, providing guidance on emergency response, and assisting with antiterrorism plans, among other activities.
- OST will expand research on high priority critical infrastructure vulnerability areas, conduct in-depth analyses of transportation system critical interdependencies, and refine vulnerability assessments.

Other Federal Programs with Common Outcomes: The essence of DOT's effective performance in protecting transportation infrastructure depends to a substantial degree on our effectiveness in maintaining close liaison with numerous law enforcement agencies, such as the Federal Bureau of Investigation, Central Intelligence Agency, U.S. Secret Service, State Department, and local police departments to acquire current threat information against trans-

portation systems and facilities. This affords DOT access to information on current terrorist activities to transportation operational elements worldwide.

Management Challenge – Surface Transportation Security (IG)

DOT currently provides briefings to the National Security Council and counter-terrorism working groups on transportation security issues to develop awareness of security issues, and support for research, development, testing, and evaluation for DOT-related projects.

The IG has stated that DOT should:

- finalize its draft surface transportation research and development security strategy, which incorporates recommendations made by the National Research Council;
- develop ways to assess surface transportation security; and
- prioritize areas for Department action.

The IG also called for chemical and biological detection capabilities for airports and transit systems, as well as methods to ensure the safe return of passengers to these areas after an actual or threatened attack.

To begin addressing these challenges, DOT has drafted a comprehensive transportation security strategy. DOT will finalize the strategy by September 2001 and implement it in 2002.

MILITARY READINESS: The U.S. Coast Guard – as one of the five armed services – provides an essential and unique element of our national security. Today, its agreed-upon defense functions are anchored in the service's unique capabilities in maritime interception operations; military environmental response operations; port operations, security and defense; and peacetime engagement.

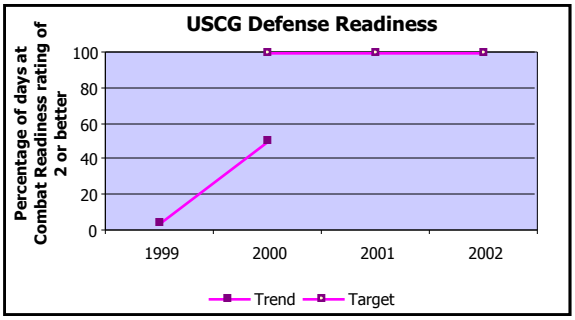
Performance measure: Percentage of days that the designated number of critical defense assets (high endurance cutters, patrol boats, and port security units needed to support Defense Department operational plans) maintain a combat readiness rating of 2 or better.

	1999	2000	2001	2002
Target:	N/A	100%	100%	100%
Actual:	4%*	51%		

** See note below*

Note on Revised Reporting Methodology: In 2000, the Navy and Coast Guard agreed on a revised readiness reporting scheme, whereby artificially low peacetime readiness ratings for Coast Guard units can be factored out. Coast Guard units, except for Port Security Units, are not staffed in peacetime with a full wartime personnel allowance, and that has now been accounted for in the readiness reporting system. In event of a national security contingency when these units change to Combatant Command (CinC) operational control, members of the Coast Guard Reserve augment ships' crews.

External Factors: Operations tempo can contribute to increased equipment failures and slippage of long-term maintenance. Maintenance and logistics systems are increasingly challenged to provide the support necessary to maintain readiness standards.

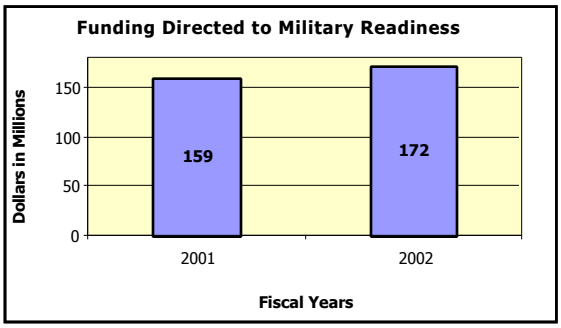


2000 Results: DOT did not meet the performance target for providing the required number of 'combat ready' forces to Combatant Commands. Patrol boat readiness requirements were fully met. High endurance cutter readiness, which was 53% of days, was affected by personnel and training shortfalls, followed closely by equipment outages. Port Security Units have made progress toward attaining the minimum overall readiness rating, but at best, only two units met the acceptable readiness rating at the same time, with a third unit almost at the acceptable level. The remaining three units have recently been established, and personnel, supply and equipment allowances are being filled. Training and exercise deficiencies are being steadily eliminated.

Port Security Units were able to enhance skills and unit proficiency through participation in a series of DOD operations and exercises.

FY 2001 Performance Plan Evaluation: While significant improvements in military readiness were made in 2000, DOT does not expect to meet targeted performance levels.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



Coast Guard is requesting additional funding for its military personnel to increase recruitment and retention, and improve military readiness levels. In addition, Coast Guard will take several steps to improve the long-term sustainability of its resources to meet its military obligations:

- Continue to participate in DOD military training and readiness exercises.
- Assess long-term resource and operational requirements through participation in DOD's Quadrennial Defense Review (QDR) and other analysis and workgroup initiatives.
- Implement the Readiness Management System ($1.7 million).

- Ensure DOD Command, Control, Communications and Intel interoperability, and Military Satellite Communications ($2.2 million).

- Develop Surface Search Radar System Support. Replace Self-Contained Breathing Apparatus (SCBA) used to conduct emergency/shipboard firefighting operations, and replace P-250 dewatering pumps aboard cutters ($3.9 million).

Other Federal Programs with Common Outcomes: The Department of Defense coordinates the assigned roles of each service in national defense, and develops readiness-rating systems. The Coast Guard transfers to the Department of the Navy in time of war or in national emergencies, as directed by the President. The Coast Guard routinely participates in military exercises that enhance the joint readiness of the Armed Forces. The Coast Guard also works with DOD to set readiness criteria, and develop systems for tracking readiness. An inter-Departmental agreement outlines missions in support of DOD that the Coast Guard will provide. These current missions are listed in the opening paragraph. Jointly developed operational plans establish the number of Coast Guard units factored into Combatant Command contingency plans.

SEALIFT CAPACITY: To maximize DOD's logistics capability and minimize its cost, future defense transportation requirements will be met by increasing reliance on the U.S. commercial sector. However, increasing globalization and consolidation of transportation providers have left fewer U.S.-flag commercial carriers and an increased risk of disruption of defense transportation. The ability of the United States to respond unilaterally to future military emergencies will require adequate U.S.-flag sealift resources, skilled U.S. maritime labor, and the associated maritime infrastructure. The Maritime Security Program (MSP), which DOD will assume in FY 2002, and the Voluntary Intermodal Sealift Agreement (VISA) program assure DOD sufficient access to critical sustainment sealift capability for national security contingency requirements. These programs guarantee that the Nation will retain strategic sealift capacity, and they provide for a seamless, time-phased transition from peacetime to wartime operations while balancing the defense and commercial elements of our marine transportation system.

Performance Measure: Ship capacity (in twenty-foot container equivalent units, or TEUs) available to meet DOD's requirements for intermodal sealift capacity.

	1999	2000	2001	2002
Target:	165,000	165,000	165,000	#
Actual:	162,151	171,218		

 # Measure discontinued

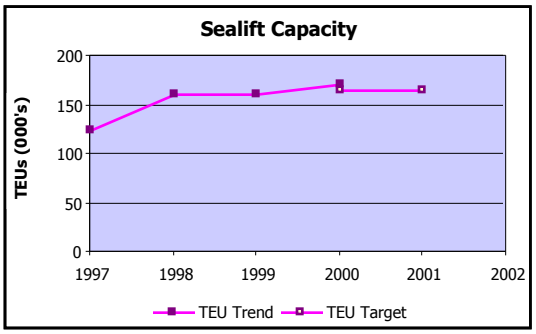
Discontinued performance measure: Ship capacity (in million square feet) available to meet DOD's requirements for intermodal sealift capacity.

	1999	2000	2001	2002
Target:	14.5	14.5*	**	**
Actual:	14.3	15.1		

** Target was corrected to maintain equivalency with the targets above.*

***Measure was discontinued in the DOT FY 2001 Performance Plan.*

External Factors: Business decisions resulting in further globalization and consolidation of shipping companies could reduce the availability of U.S.-flag sealift capacity.



2000 Results: DOT met the performance target. U.S.-flag carriers committed a total of 171,218 twenty-foot equivalent units (TEUs) for emergency sealift purposes. This amount of sealift capacity also represents an increase of 9,067 TEUs from last year.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year.

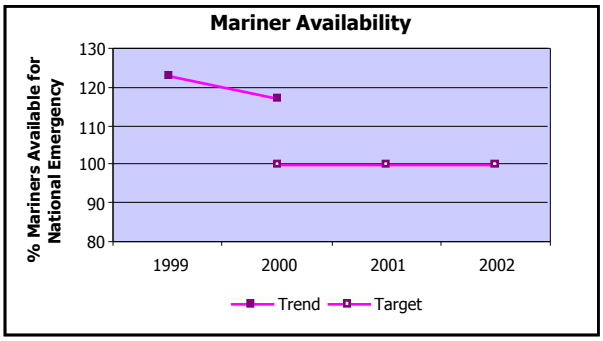
Strategies and Initiatives to Achieve 2002 Goal: The Administration has proposed that the Maritime Security Program, upon which this goal is based, and the associated funding, will be transferred to the Department of Defense in FY 2002. Therefore, no measure is proposed for DOT in 2002.

MARINER AVAILABILITY: U.S. national defense depends on strategic mobility to remote places of the world. This, in turn, depends on maritime shipping, which depends on competent crews. In particular, to become operational, all vessels in the Ready Reserve Force (RRF) require licensed and unlicensed U.S. seafarers. Merchant mariners employed on commercial vessels in the U.S. domestic and international trades provide the core job skills needed to crew the RRF. Without this pool of merchant mariners, it is unlikely that sufficient seafarers would be available to crew the RRF, as well as maintain ongoing commercial activity, in an emergency. In a full mobilization requiring activation of all the RRF, inactive mariners would be needed, particularly those who have recently sailed and still hold valid licenses/documents.

Performance measure: Of the mariners needed to crew combined sealift and commercial fleets during national emergencies, the percent of the total that are available.

	1999	2000	2001	2002
Target:	100%	100%	100%	100%
Actual:	123%	117%		

External Factors: The extent to which the commercial fleet expands or contracts in peacetime controls the supply and demand for mariners. A decision by an individual mariner to accept a sealift crewing position is voluntary and dependent on many factors related to the individual and the situation. More stringent international standards for maritime training and personnel certification beginning in 2002 could affect the number of qualified merchant mariners.

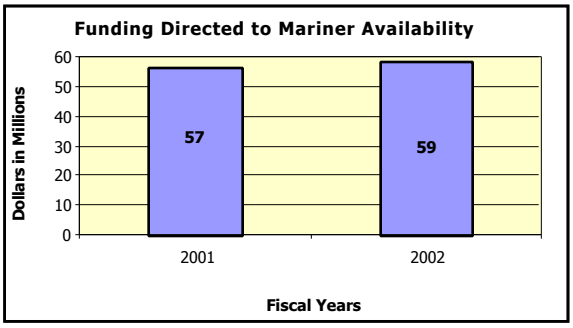


2000 Results: DOT met the target in 2000. MARAD created an interface with the Coast Guard's Merchant Marine Licensing Documentation database, which allows MARAD to receive monthly updates of seafarer information.

MARAD and the Coast Guard completed audits of the training programs at the California State maritime school and the U.S. Merchant Marine Academy (USMMA). The audit results indicate that each school is in compliance, with minor discrepancies, with international standards for training, certification and watchkeeping. Chemical and biological warfare defense training at maritime training institutions also continued.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



MARAD will continue to support programs and policies that promote the U.S.-flag merchant marine. MARAD will provide for training of new merchant marine officers through the operation of the USMMA ($47.8 million). Funding for the USMMA includes $13 million for repairs, maintenance and capital improvements. MARAD also will support merchant marine officer training at the six State maritime academies through a combination of direct payments, student incentive payments, and maintenance of training ships ($7.4 million). These training programs replenish the pool of available crewmembers by training new officers and through continuing education.

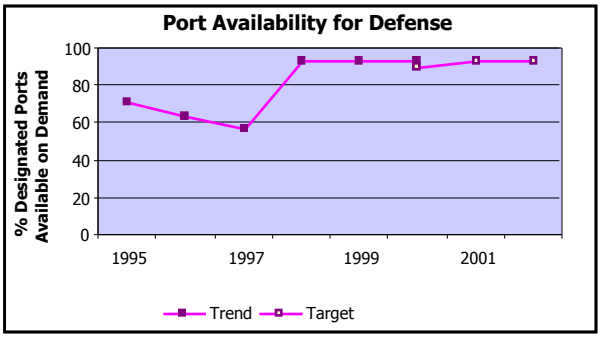
Other Federal Programs with Common Outcomes: DOT and DOD share a common goal to have sufficient sealift capacity available to meet defense mobilization requirements. The National Security Sealift Policy (National Security Directive 28, of October 5, 1989) states that DOT is responsible for determining whether adequate manpower is available to support the operation of reserve ships during a crisis. MARAD meets regularly with DOD personnel to coordinate planning for crewing requirements.

DOD-DESIGNATED PORT FACILITIES: Port and intermodal facilities provide the critical interface between the water and surface modes of transportation, handling both commercial and military cargoes. As DOD reduces its overseas presence, it must rely more on transportation resources located in the continental United States. During military mobilizations, DOD must be able to move equipment and supplies through designated commercial port facilities quickly to ensure optimal logistics flow to overseas commanders. DOT is responsible for establishing DOD's prioritized use of ports and related intermodal facilities during DOD mobilizations. When military cargo movement is time critical, DOT ensures that designated strategic ports are available.

Performance measure: Percentage of DOD-designated strategic ports for military use that are available when requested by DOD.

	1999	2000	2001	2002
Target:	90%	90%	93%	93%
Actual:	93%	93%		

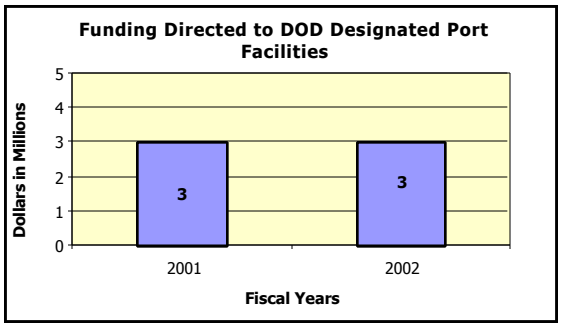
External Factors: Due to the continuing globalization of the U.S. economy, foreign trade is continuing to increase. Since 95 percent of U.S. foreign trade (by volume) moves by sea, this places growing demands on U.S. ports. This increased demand may reduce port facilities' ready availability for priority movement of military cargo during national security contingencies. U.S. port national security capability will also be affected by: 1) adequacy of land and waterside access to the strategic ports; 2) the availability of sufficient longshore labor to load military cargo during contingencies; and 3) the suitability of cargo handling technology and equipment.



2000 Results: DOT met the performance target. Marine terminal facilities at 13 of the 14 strategic commercial ports met DOD's readiness criteria. MARAD regional officials and other members of the National Port Readiness Network (NPRN) conducted semi-annual port readiness visits at each of the marine terminals. Mobilization exercises to test port readiness were also conducted at six ports. MARAD continued to participate with DOD personnel on two teams whose purpose is to improve port readiness.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



MARAD is responsible for determining the priority and allocation of ports and related intermodal facilities during DOD mobilizations, when the smooth flow of military cargo through commercial ports is critical. MARAD will continue to work with ports, carriers, and DOD to improve the critical interface between water and surface transportation modes in strategic seaports. At issue is maintaining the critical balance between rapid movement of military cargo in times of crisis, and efficient commercial cargo flow, so that no undue harm is done to the national economy.

In concert with NPRN partner agencies, MARAD will continue to:

- test deployment plans through port readiness exercises;
- conduct strategic port defense workshops for Federal and port officials;
- develop or update port readiness initiatives such as port security manuals, and port planning orders;
- monitor monthly strategic port facility availability;

- conduct semi-annual port assessments with the Military Traffic Management Command (MTMC);

- increase commercial ports' capability to handle traffic through the transfer of surplus Federal real property to port authorities; and

- provide technical assistance to the Center for the Deployment of Transportation Technologies (CCDoTT) under a cooperative agreement.

The CCDoTT program demonstrates existing, emerging, and developing technologies in cargo handling, tagging, tracking, information management systems, and high-speed sealift. These technologies, if adopted, will help the military deploy more rapidly, expand the ability of commercial transportation to accommodate the surge of military cargo at strategic ports, and minimize commercial transportation disruption at the ports during mobilizations. These are all factors used to evaluate port and terminal readiness.

As the "Focused Logistics" component of the National Military Strategy evolves, military cargo requirements could increase. Using DOD's "Ports for National Defense" studies and Mobility Requirements Study, 2005, MARAD will assist MTMC in determining if any additional port facilities should be added to the 14 facilities already designated by DOD as strategic ports. MTMC will also determine the criteria for selecting any additional strategic ports. MARAD will then issue necessary planning orders to the affected ports for information purposes and provide guidance for arrangements necessary to meet DOD's needs.

Other Federal Programs with Common Outcomes: MARAD, U.S. Army Corps of Engineers, U.S. Coast Guard, and components of three major and unified DOD commands (Transportation Command, Joint Forces Command and the Army Forces Command) – have agreed upon joint responsibilities to ensure efficient movement of military forces and supplies through U.S. ports. The agreement also established a National Port Readiness Steering Group whose efforts establish joint policy direction and broad priorities.

READY RESERVE FORCE (RRF) ACTIVATION: The Department of Defense (DOD) relies on the RRF for sealift of U.S. forces during the early stages of a military crisis, and for logistics sustainment after initial deployment. The RRF is composed of specially capable ships and non-commercial service support ships that can carry or offload heavy and oversized military cargoes which regular U.S. flag commercial cargo ships cannot. DOD appropriations fund RRF maintenance and operation, and DOT owns and manages the RRF. Consistent, high operational reliability of the RRF is essential for effective support of DOD.

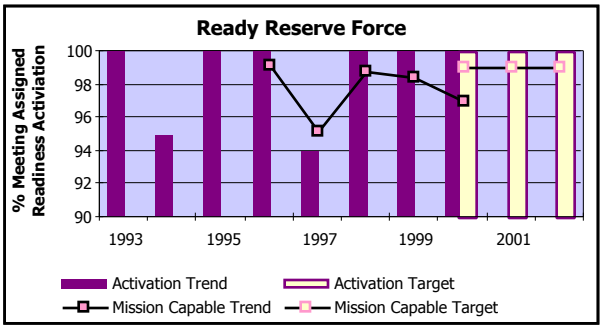
Performance measure: Percent of RRF no-notice activations that meet assigned readiness timelines.

	1999	2000	2001	2002
Target:	100%	100%	100%	100%
Actual:	100%	100%		

Performance measure: Percent of days that RRF ships are mission-capable while under DOD control.

	1999	2000	2001	2002
Target:	99.0%	99.0%	99.0%	99.0%
Actual:	98.4%	97.0%		

External Factors: The availability of U.S.-licensed mariners to crew the RRF and the ability of the U.S. ship repair and industrial base to support critical surge activation of the RRF program are key external factors that come into play in large-scale activations of the RRF.

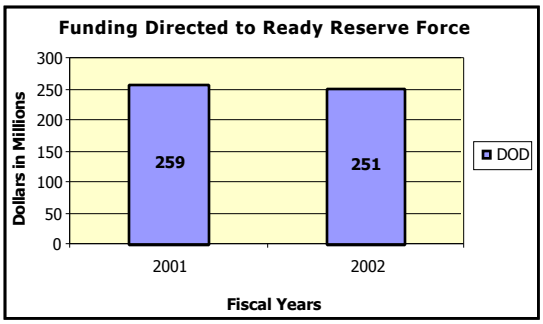


2000 Results: DOT met the no-notice activation target, but did not meet the mission-capable target. MARAD successfully activated all 18 RRF ships ordered by DOD with no advance notice within established timelines. DOD conducts these "no advance notice" tests annually to ensure availability of these military support ships. After activation, the 13 ships operated at sea by the Military Sealift Command (MSC) were mission-capable 97 percent of the time, two percent less than our goal. One of the 13 ships had a main-propulsion boiler fire and underwent 44 days of major repairs.

MARAD successfully conducted 53 maintenance sea trials and 12 dock trials of RRF ships. These regularly scheduled trials are designed to monitor the readiness and material condition of various ships in the RRF and to provide crew training.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target this year.

Strategies and Initiatives to Achieve 2002 Target: DOD funds the RRF; however, MARAD manages the RRF on a reimbursable basis. In FY 2002, $251 million is being requested by DOD:



MARAD is able to activate the RRF rapidly by maintaining accurate fleet-wide data on RRF vessels and characteristics, requiring the use of commercial contracting practices by RRF ship managers, upgrading the status of priority RRF ships to include permanent onboard ROS crews, and conducting full-power sea trials. MARAD will maintain contracts with ship operating companies to provide support in planning, contracting, maintenance and crewing of the 76-vessel RRF fleet. RRF ships undergo regular Coast Guard and American Bureau of Shipping inspections and surveys to assure that these ships continually meet U.S. and international safety standards. Along with periodic and DOD no-notice activation, this ensures RRF readiness and reliability.

In 2002, MARAD will:

- work with DOD, carriers, ship managers, and maritime labor to ensure rapid crewing of RRF vessels during emergencies, increase the efficiency of the fleet sites, and improve evaluations of ship repair contracts to ensure that ship managers reward the most capable and efficient firms.

- continue the RRF maintenance and repair regimen and berth each RRF ship according to its prescribed readiness status. High priority ships kept in Reduced Operating Status (ROS) 4-day and 5-day status have 9 or 10 person maintenance crews on board, are berthed at dispersed "outport" locations, and have frequent sea trials to test their operational capability. Lower priority ships are kept in RRF-10 day and RRF-20 day status.

- conduct 47 maintenance sea trials and nine dock trials. The trials enable MARAD to monitor the material condition of the ships and provide training to ROS crews and ship managers.

Other Federal Programs with Common Outcomes: The joint goal of DOD and DOT is to keep RRF ships in designated states of readiness to meet military sealift requirements in the event of war or other national security contingency. The U.S. Transportation Command (USTRANSCOM) is responsible for ensuring adequate sealift transportation of military cargo to support military needs. They determine the readiness status and siting of RRF ships in order to support Joint Staff force projection needs and provide annual program planning guidance so that MARAD can develop RRF budget requirements. The Department of the Navy funds DOT's maintenance and operation of the RRF through the National Defense Sealift Fund.

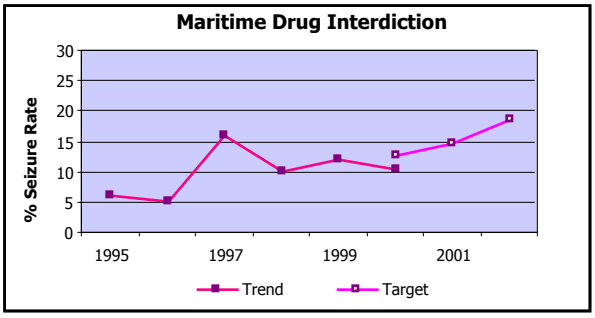
USTRANSCOM has established a surge sealift requirement of 10 million square feet of lift for FY 2001 and 2002, and the RRF is sized to meet approximately half of this requirement. MARAD maintains and activates the RRF fleet, and MSC owns Fast Sealift Ships and Large Medium Speed Roll-on/Roll-off vessels that provide the other half of Federally owned sealift capacity.

DRUG INTERDICTION: Illegal drugs threaten our children, our communities, and the social fabric of this country. Approximately 52,000 deaths occur annually in America from drug abuse and drug-related crimes, accidents, and illnesses. The Coast Guard seized a record 60.2 metric tons of cocaine, and about 23 metric tons of marijuana in 2000. However, an estimated 568 metric tons of cocaine slipped through the transit zone on its way to the United States via non-commercial means. The authorized levels in the Western Hemisphere Drug Elimination Act are fully funded to improve our ability to interdict these flows of illegal drugs.

Performance measure: Seizure rate for cocaine that is shipped through the transit zone (high seas between source countries and the United States).

	1999	2000	2001	2002
Target:	12.5%	13%	15%	18.7%
Actual:	12.2%	10.6%		

External Factors: Drug interdiction operates in a challenging and ever changing environment. The international drug syndicates operating throughout our hemisphere are resourceful, adaptable, and extremely powerful. At the same time, socioeconomic conditions here and abroad influence demand and supply for illegal drugs.



2000 Results: DOT did not meet the performance target, although the Coast Guard seized a record 60.2 metric tons of cocaine in 2000. Record interceptions of cocaine resulted from greater patrol effort in the eastern Pacific Ocean, improved intelligence sharing with other law enforcement agencies and better cooperation with Central and South American countries.

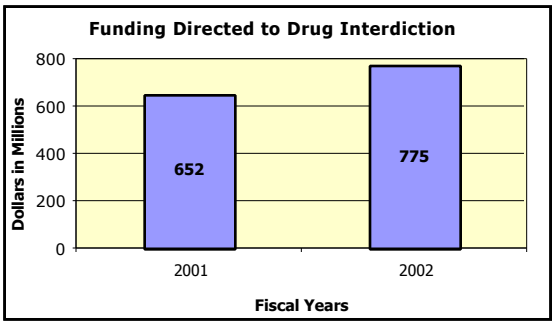
Northward cocaine flow has increased, thereby negating the effect of increased seizures. A growing threat in smuggling has been the shipment of cocaine to the United States through the eastern Pacific. The Coast Guard shifted forces to adapt to this change in drug transport. Interdictions in this region accounted for over 80 percent of all drugs seized by the Coast Guard in 2000.

The Coast Guard began to deploy faster boats and armed helicopters to improve interdiction of small, fast smuggling boats that had heretofore presented a vexing operational problem. In six out of six intercept operations, these new assets seized over one metric ton of cocaine, over 5 metric tons of marijuana, and detained 18 suspects.

The Coast Guard continued operations in the vicinity of Puerto Rico, off the seaward ends of the Southwest border in the Gulf of Mexico and off California, and elsewhere in the Caribbean to deny trafficking routes and keep constant deterrent pressure on smugglers.

FY 2001 Performance Plan Evaluation: DOT will be challenged to meet the increased interdiction target, which is set for all interdiction agencies by the Office of National Drug Control Policy (ONDCP).

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In 2002, the Coast Guard will continue to develop new tactics and will vary its operations to deny maritime smuggling routes, targeting high threat areas. Specifically, the service will:

- begin acquiring replacements for Deepwater assets, and develop a new system of surface, air, command and control, intelligence, and logistics to carry out drug interdiction and other missions.

FAA will continue to correlate flight plans and transponder codes to help air interdiction command and control nodes sort and classify air traffic, and will continue identifying airborne smugglers using radar, aircraft lookouts, and tracking the movement of suspect aircraft.

NHTSA will contribute to demand reduction by continuing its programs to educate America's youths to reject drugs, contributing to the reduction of drug-related crime and violence and highway injuries and deaths.

Other Federal Programs with Common Outcomes: The ONDCP coordinates overall U.S. drug policy, and sets national objectives and goals in the National Drug Control Strategy, and accompanying performance measures and objectives. The USCG, FAA, and NHTSA contribute to the interagency effort to reduce demand and supply. The Coast Guard Commandant serves as the U.S. Interdiction Coordinator for the ONDCP Director, coordinating yearly operations plans to ensure harmony of interagency effort. The Coast Guard is lead Federal agency for maritime drug interdiction; lead agency responsibility for air interdiction is shared with the U. S. Customs Service. The Defense Department provides detection and monitoring support, and provides ships to augment interdiction efforts at sea. The State Department provides international, diplomatic liaison with other countries and supports DOT efforts in bilateral agreements to counter drug smuggling. The Justice Department is heavily involved in coordinating intelligence for all source, transit, and arrival zone operations. The field level units that are involved in interdiction also carry out regular contact and coordination.

Management Challenge – Coast Guard Capital Acquisition Budget (IG/GAO)

The $9.8 to $15 billion, 20-year Deepwater Project is the largest capital improvement project ever undertaken by the USCG. The IG has acknowledged that the USCG is using an innovative planning process and that, when completed, it should provide a good basis for establishing needs and developing an acquisition strategy. However, the IG and GAO have stated that there are several critical challenges remaining to demonstrate that the Deepwater Project is justified and affordable. Findings were that the USCG should fill gaps in the planning process and respond to concerns about how it can proceed with a request to start buying assets in advance of completing its comprehensive planning process. Also, USCG should develop reliable cost estimates to avoid problems other agencies have encountered in major-system replacements, and take into account competing budget demands from other DOT agencies.

In its report of January 2000, the Interagency Task Force on Roles and Missions validated USCG missions, and confirmed ongoing or increasing demand for future USCG services. Accordingly, the USCG has undertaken the recapitalization of its assets in the deepwater operating environment. The Deepwater Capability Replacement Project will provide a performance-based acquisition of assets to perform USCG deepwater missions worldwide. Working with industry teams, the USCG will acquire an integrated system of surface, air, command and control, intelligence and logistics systems. The conceptual design phase of the project was completed in December 1999. Functional design will be completed in April 2001.

Last, the IG has identified the Coast Guard Search and Rescue program's effectiveness as needing additional focus due to staffing, training and capital asset readiness problems; particularly with regard to budget and acquisition schedule estimates for replacing the National Distress and Response System.

FY 2000

- Deepwater Legacy Asset Baseline updated (June 2000)
- National Distress and Response System (NDRS) Phase I contract (Design, Demonstration and Validation) awarded (August 2000).

FY 2001

- Complete Deepwater functional design and implementation plan (June 2001)
- Issue Deepwater Phase II (Detailed Design and Cost Estimates) Request for Proposal (July 2001)
- Receive Phase II proposals from Deepwater industry teams (September 2001)
- Complete NDRS Phase I and evaluate designs and costs (September 2001)

FY 2002

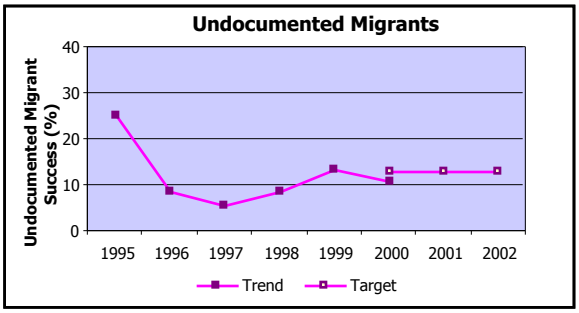
- Award Deepwater contract (March 2002)
- Issue NDRS Full Scale Development Request for Proposal and award full scale development contract (September 2002)

MIGRANT INTERDICTION: Illegal immigration poses a serious threat to America's economic and social well-being, and challenges the integrity of our borders as a sovereign nation. Thousands of people try to enter this country illegally every year via maritime routes, many via smuggling operations, and sometimes in large waves from unstable countries. An untold number perish when overloaded, unseaworthy vessels capsize. DOT acts to stop illegal migration across our sea borders.

Performance measure: Success rate for undocumented migrants attempting to enter the U.S. over maritime routes.

	1999	2000	2001	2002
Target:	13%	13%	13%	13%
Actual:	13.3%	11%		

External Factors: Socioeconomic and political conditions in both the United States and migrant source countries influence the magnitude of migrant flows. Outcomes are also influenced by transnational criminal enterprises who profit from transporting illegal migrants. Year-to-year measures of success can take unexpected turns based on changing criminal tactics.



2000 Results: DOT met the target, largely because migrant flow shifted in response to last year's interdiction efforts at sea:

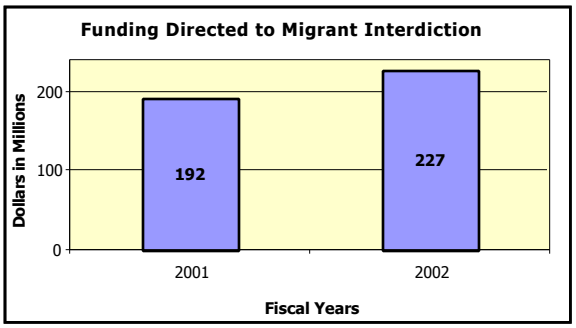
- Last year large numbers of Chinese migrants attempted to enter the United States via Guam. The Coast Guard was successful in shutting this path to illegal entry, and Chinese migrants are once again targeting Mexico and Central America, for eventual passage across the land border of the United States.

- Cuban migrant flow by sea also diminished, due to an improved process for granting immigrant visas by the U.S. Interest Section in Havana; an increased number of Cubans taking illegal flights to the United States from third countries; and an increased number travelling to Mexico (by air) and crossing the land border illegally.

Transnational criminal smuggling enterprise remains an ongoing problem. Smugglers have created a lucrative business in human cargo, and the majority of the migrants attempting to illegally enter the U.S. employ their services. Domestic organized crime also provides financing, allowing migrants to make a small down payment for travel, with the remaining being paid off while working in the United States.

FY 2001 Performance Plan Evaluation: DOT will be challenged in meeting the performance target if migrant flow rates increase during the year.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In 2002, the Coast Guard will increase intelligence, and improve interagency operational coordination, specifically with the U.S. Border Patrol anti-smuggling unit and the U.S. Attorney's Office in Miami. The Coast Guard will also pursue migrant interdiction bilateral agreements in conjunction with the Department of State.

Operationally, the Coast Guard will conduct deterrence and interdiction patrols along known maritime routes, focusing tactical dispositions according to improved intelligence.

The Deepwater acquisition project will enable the Coast Guard to keep assets with long endurance capabilities and extensive command and control capabilities on station during times of increased migration attempts.

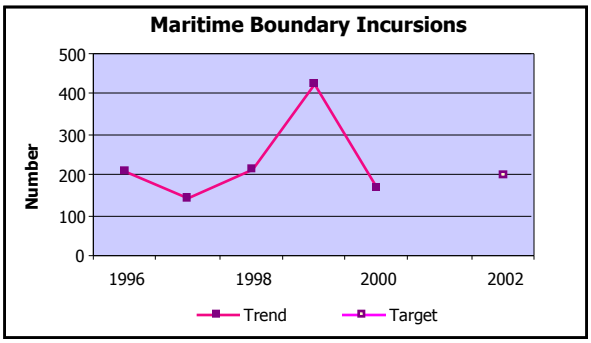
Other Federal Programs with Common Outcomes: The U.S. Border Patrol enforces U.S. immigration laws on shore, while the Coast Guard enforces immigration law at sea. The Immigration and Naturalization Service and the Coast Guard work together on the disposition of undocumented migrants who are detained. The Coast Guard regularly meets and coordinates with the State Department, INS, and the Border Patrol on immigration issues and potential international agreements. The Coast Guard regularly shares intelligence information with the other agencies regarding specific illegal migration trends and forecasts. Discussions on an interagency goal structure have begun.

MARITIME BOUNDARY INCURSIONS: The United States has claimed an exclusive economic zone (EEZ) extending 200 miles from U.S. shores, the largest in the world, and a major source of U.S. renewable resources. The U.S. maritime contiguous zone has been set to 24 miles seaward from land to enable financial, health, environmental and customs law enforcement. This border is of increasing national security importance in an era of non-traditional economic and national security threats. DOT must protect U.S. maritime borders from illegal intrusions.

Performance measure: Number of incursions into the U.S. Exclusive Economic Zone.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	202
Actual:	428	170		

External Factors: The number of illegal incursions into the U.S. EEZ may vary from year to year. For example, a change in foreign fisheries management measures may result in a greater incentive for fishermen to illegally fish in U.S. waters. Furthermore, oceanic and climatic shifts can cause significant fluctuation in the migratory patterns of important fish stocks that cross EEZ borders. Illegal fishing activities sometimes increase as commercial fishermen follow their intended catch.



FY 2000 Results: The Coast Guard detected 170 illegal incursions into the U.S. EEZ in 2000, compared to 428 in 1999. The Coast Guard improved cooperative arrangements with Canada, Mexico, and Russia to increase prosecution rates and decrease the number of incursions.

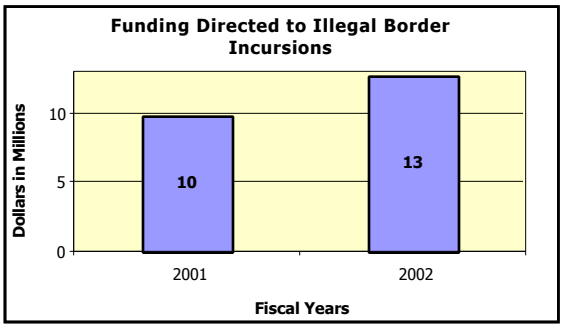
Many incursions occur in the Bering Sea, along the Maritime Boundary with Russia. Large trawlers from many nations fish in Russian waters along the boundary. In cooperation with the Russian Federal Border Guard, the Coast Guard was more successful in apprehending violators, and the smaller number of incursions reflects the deterrent effects of that success.

The largest number of illegal incursions has always occurred in the Gulf of Mexico, along the U.S. - Mexico border, where small Mexican fishing vessels operate in the U.S. EEZ, and rapidly flee to the Mexican territorial seas when sighted. The Coast Guard works closely with Mexican forces to suppress these violations. The Coast Guard has enjoyed better success in catching more violators by use of faster intercept boats, and has seen a decline in incursions since 1999.

Similarly in the Great Lakes, the Coast Guard has observed reductions in incursions. Under a recently signed Law Enforcement Memorandum of Understanding (MOU) with Canada, USCG units may enter Canadian waters and airspace to identify violators, and forward evidence to Canadian authorities for prosecution.

FY 2001 Performance Plan Evaluation: This is a new performance goal in FY 2002.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In each major threat area, the Coast Guard will improve performance by increasing cooperation with foreign governments and improving the capabilities of Coast Guard units to detect and prosecute boundary violations. In 2002, the Coast Guard will:

- continue to work closely with Russian, Canadian and Mexican authorities to stop illegal incursions;
- work with the Department of Defense to improve its capability to detect violations, and undertake multiple projects to ensure successful use of non-lethal force; and

- continue ongoing operations with Western Pacific island nations to improve interoperability.

The Deepwater acquisition project will enable the Coast Guard to keep assets with long endurance capabilities and extensive command and control capabilities on station to suppress violations of U.S. law and maintain the integrity of the Nation's maritime borders.

Other Federal Programs with Common Outcomes: The Departments of Defense, State, Justice, Treasury, and the Intelligence community all make contributions to DOT and the Coast Guard in its role as the national maritime law enforcement agency.

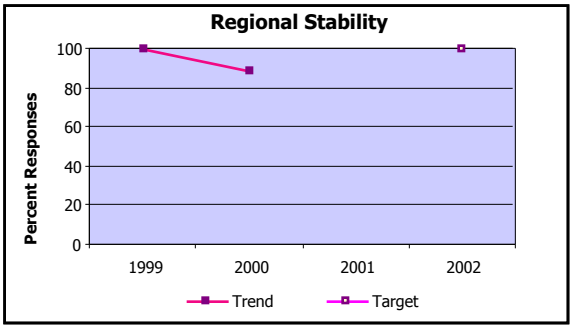
REGIONAL STABILITY: The United States shapes the international environment through an integrated mix of force and diplomacy that minimizes threats to regional stability. These threats stem from a broad range of sources, including territorial and natural resource disputes, transnational threats (i.e., crime, terrorism, and illegal drugs), economic crises, and natural disasters. Left unresolved, these can become the seeds of conflict, resulting in violence or disruptions in the flow of goods and services. In concert with the State and Defense Departments, DOT contributes to regional stability in a variety of ways: by sponsoring or participating in economic, security, law enforcement, and trade agreement negotiations; by participating in military operations under the auspices of DOD regional commanders; and by providing technical assistance to other nations' transportation infrastructure, safety, and security ministries.

Performance measure: Percent of responses to Department of Defense or State Department assistance requests.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	100%
Actual:	100%#	89%#		

 # USCG data only

External Factors: National boundaries and identity will determine regional geopolitical frameworks, but boundaries may become more indistinct over time. Regional instabilities stemming from geopolitical and economic change could contribute to regional instability.

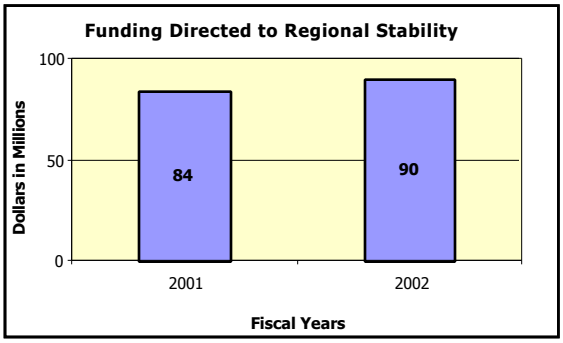


2000 Results: This is a new crosscutting goal for 2002. In 2000, the U.S. Coast Guard provided support to the Departments of Defense and State at their request 89% of the time.

In 2000, the FAA provided aviation-related training to 647 foreign civil aviation officials and technical experts from outside the United States, for a total reimbursable cost of $1.9 million. FAA also completed 101 cooperative agreements with 87 different countries for flight inspection, logistics, training and general support.

FY 2001 Performance Plan Evaluation: Intermodal performance measurement results for this measure will be reported in 2002. DOT will continue efforts to conclude DOT-sponsored agreements with foreign nations and establish baseline data.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



In 2002, DOT will continue to support U.S. efforts to constructively engage international partners and offer assistance to foreign governments in the development of their critical security and transportation infrastructures:

- The Coast Guard will continue to provide training to foreign government transportation, safety, and security personnel. Coast Guard will train over 300 international students at resident training centers, and will conduct over 75 mobile training team deployments to over 50 countries around the world.
- Coast Guard will transfer 7-10 excess cutters and 10-15 excess boats per year to foreign governments under the Foreign Assistance Act.
- Coast Guard will continue to offer assistance and advice to foreign governments in the implementation of maritime Digital GPS technology conforming to U.S. standards.
- Coast Guard will assist migrant source zone countries and drug transit zone countries in improving democratic institutions and effective law enforcement against criminal enterprise.

- Coast Guard cutters will deploy overseas in support of DOD regional commanders-in-chief.

- FHWA will complete bilateral technology assistance initiatives with Russia, Turkey, Brazil, and Chile; conduct multi- and bilateral assistance to improve global freight logistics; and assist in Intelligent Transportation System development.

- From an energy security perspective, FHWA will support the Caspian Basin countries, the Middle East, and West Africa's needs for highway infrastructure development and provide advice on technical and finance issues.

- FAA will continue to promote improvements in aviation safety and security in Africa through the Safe Skies for Africa Initiative (SSFA). Under this initiative, the FAA and DOT will continue to take the lead in organizing and managing U.S. Government teams to visit selected countries in the region. Seven countries have been visited to date: Cape Verde, Cameroon, Cote d'Ivoire, Kenya, Mali, Namibia and Tanzania. The FAA will continue to assist these countries in developing action plans to help improve aviation safety and security.

- The FAA will participate in ministerial level exchanges to promote aviation safety and foster the growth of international aviation in the following fora:

  - Western Hemispheric Transportation Initiative (WHTI)/Partnership for Safer Skies in the Western Hemisphere.

  - Central American Safety Authority (ACSA) for continued implementation of a regional safety oversight mechanism in Central America.

  - Asia Pacific Economic Cooperation (APEC).

  - The Russian/American Coordination Group for Air Traffic Control (RACGAT), along with other countries that participate in these meetings.

- FAA and DOD will co-sponsor civil-military aviation initiatives with several nations.

Other Federal Programs with Common Outcomes: The Departments of Defense and State coordinate U.S. defense and foreign policy, respectively, in support of the National Security Strategy. A variety of other Cabinet and independent agencies make contributions to U.S. foreign policy in accordance with their specific authorities, and in support of the appropriate lead agency who is involved in any aspect of regional stability – for instance, the Department of Commerce contributes to regional stability through trade and technology exchange, and the Agency for International Development provides humanitarian and economic development assistance.

ENERGY EFFICIENCY: Moving people and goods requires more than one-quarter of the total energy used in the United States and accounts for two-thirds of U.S. petroleum consumption. Transportation is nearly totally dependent on oil for energy, and over half of the petroleum used in the United States must be imported. This dependency makes the U.S. economy particularly vulnerable to supply disruptions. To lessen this vulnerability, the Federal Government acts to improve the fuel efficiency of various transportation modes and to develop transportation power systems that use alternatives to petroleum-based fuels.

Performance measure: Transportation-related petroleum consumption (in quadrillion BTUs) per trillion dollars of Real Gross Domestic Product (GDP).

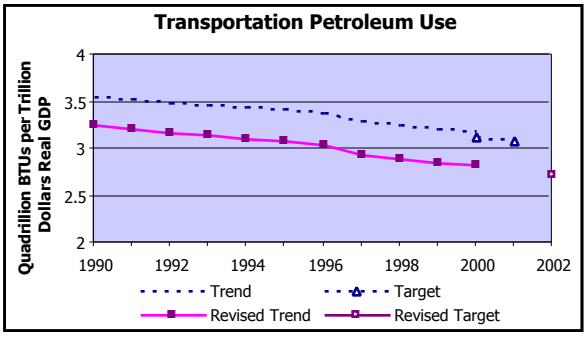
	1999	2000	2001	2002
Target:				
Original:	N/A	3.13	3.09	N/A
Revised:	N/A	2.80*	2.76*	2.72
Actual:				
Original:	3.207(r)	3.202#		
Revised:	2.851(r)	2.828#		

** Equivalent to original target*

(r) Revised

 # Projected

External Factors: Economic growth translates to growth in transportation energy consumption, because people and businesses travel more. Demand for private vehicles tends to follow energy price trends, and vehicle makers provide choice to consumers, allowing shifts to more fuel-efficient or alternative-fuel vehicles.



2000 Results: Projected performance data show that DOT likely missed the performance target in 2000, but the trend is in the right direction.

While 2000 data are not available, data from 1999 show that transportation-related energy efficiency is improving. Transportation-related petroleum consumption grew by 2.3 percent from 1998 to 1999, compared to a 2.5 percent increase in VMT during the same period.

Provisions in appropriations acts precluded NHTSA from considering more stringent Corporate Average Fuel Economy (CAFE) requirements. As a result of this prohibition, in 2000, NHTSA issued CAFE standards for light trucks that were identical to previously issued standards. The model year 2002 fuel economy standard for light trucks was set at 20.7 miles per gallon (mpg); the fuel economy standard for automobiles remained at 27.5 mpg.

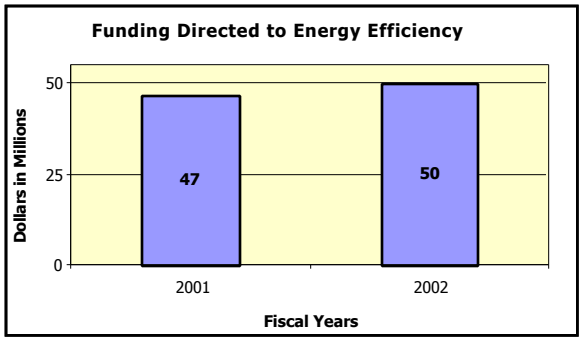
In 2000, the overall fleet fuel economy of the new light vehicle fleet was 20.4 mpg, the same as for 1999. The 2000 light truck fleet was 20.5 mpg; the new automobile fleet fuel economy was 28.1 mpg.

Through the Congestion Mitigation and Air Quality Improvement program (CMAQ), FHWA and FTA provided funding to State and local governments to improve air quality and reduce traffic congestion. In 2000, total contract authority for CMAQ totaled $1.6 billion, which was used by State and local partners to fund such programs as traffic flow improvement, shared ride and demand management, mass transit, and pedestrian and bicycle programs.

DOT awarded $4.6 million in contracts under the Advanced Vehicle Technologies Program (AVP). Authorized by the Transportation Equity Act for the 21st Century (TEA-21), AVP aims to improve energy efficiency and reduce environmental emissions from medium and heavy-duty vehicles.

FY 2001 Performance Plan Evaluation: DOT expects to meet the performance target.

Strategies and Initiatives to Achieve 2002 Target: DOT resources attributable to this performance goal are depicted below:



DOT aims to reduce transportation petroleum consumption by encouraging the use of fuel-efficient transportation, and by designing and implementing infrastructure that reduces energy consumption. DOT will also research and support the development of fuel-efficient vehicles as well as alternatives to petroleum fueled vehicles.

- FHWA will support State and local governments in implementing fuel efficiency programs including alternative fuel initiatives and other congestion reduction through the CMAQ program. A portion of the $1.7 billion requested for CMAQ would be used for fuel efficiency projects, such as pedestrian and bicyclist programs, shared ride and mass transit activities.

- Coast Guard will continue the development, test, and evaluation of a full-scale prototype fuel cell for potential use on Coast Guard cutters.

- FAA will implement the Inherently Low-Emission Airport Vehicle (ILEAV) Pilot Program, created by AIR-21. The pilot project will assist airports in deploying alternative fuel vehicles. Though the program is designed for airports in air quality non-attainment areas, eligible activities are also expected to have fuel conservation benefits ($10 million).

Other Federal Programs with Common Outcomes: DOT supports the Comprehensive National Energy Strategy. The Federal R&D partnership for next generation vehicle development includes the Departments of Commerce, Defense, Energy, and Transportation, as well as the Environmental Protection Agency. DOT leads an interagency task force on Bicycling and Walking. Members of the task force include the Department of the Interior, Consumer Product Safety Commission, Environmental Protection Agency, General Services Administration, and Centers for Disease Control.

Performance Goals - Organizational Excellence

Performance Goal	Page	Data Details
Customer Satisfaction	150	219
Employee Satisfaction	152	220
Organizational Performance and Productivity	154	220

ORGANIZATIONAL EXCELLENCE GOAL

Advance the Department's ability to manage for results and innovation.

A well-managed organization with a strong customer focus, a skilled and highly motivated workforce, and an emphasis on managing for results is essential to achieving DOT's goals. DOT is committed to improving its overall effectiveness and efficiency in achieving its strategic goals by listening to customers, providing top-quality service, enabling employees to develop and utilize their full potential consistent with the Department's goals, and efficiently managing programs for maximum performance. DOT's ability to meet its strategic goals is enabled through investments in management systems, and by thinking creatively and innovatively. Good management of, and investment in, critical performance enablers, such as communication and data systems, and in strategic, financial, data and research management, is crucial if the Department is to continue on its path toward excellence.

The FY 2002 budget proposes $490.4 million in funding to meet these challenges – an increase of 9.5 percent from 2001.

We Aim To Achieve These Organizational Excellence Outcomes:

- Improve customer satisfaction -- The Department exists to serve the needs of the American public. To be successful, we must know our customer's current and future needs and improve our ability to serve those needs on an ongoing basis.

- Improve employee satisfaction and effectiveness -- The Department is only as effective as the collective competence of its 100,000+ civilian employees and military members. Employee satisfaction has a direct impact on employees', and ultimately the Department's, performance.

- Improve organizational performance and productivity -- The Department is committed to improving the performance of Federal transportation programs and operations. To this end, DOT will align its program activities and management processes toward achieving our strategic goals; hold employees accountable for achieving organizational performance goals and improving organizational productivity; and invest in the capital assets, data, and management systems that enable the Department to improve overall performance.

Performance Goals

Customer Satisfaction

Employee Satisfaction

Organizational Performance and Productivity

Organizational Excellence, which is a new goal in the DOT 2000-2005 Strategic Plan, builds upon the Corporate Management Strategies that DOT advanced in its previous strategic plan. This section includes three new performance goals for 2002. Within these goal pages, we also report on the corporate management milestones that we set for ourselves in 2000, and assess whether we are on track to accomplish all of our key 2001 milestones.

CUSTOMER SATISFACTION: Successful organizations recognize that customer satisfaction is an integral part of total quality management. Customers establish expectations, standards and performance requirements for the organization's product and service delivery. DOT is committed to improving customer satisfaction, and for the first time in DOT history, will measure customer satisfaction with the transportation system and with DOT programs and services.

Performance Measure: Percent satisfied with transportation system performance.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	TBD
Actual:	N/A	N/A		

Performance Measure: Percent satisfied with customer service provided by the Department.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	TBD
Actual:	N/A	N/A		

External Factors: Globalization, ever expanding stakeholder communities, and Internet-enabled transportation and business transactions may change our customers' requirements faster than we can identify and satisfy them.

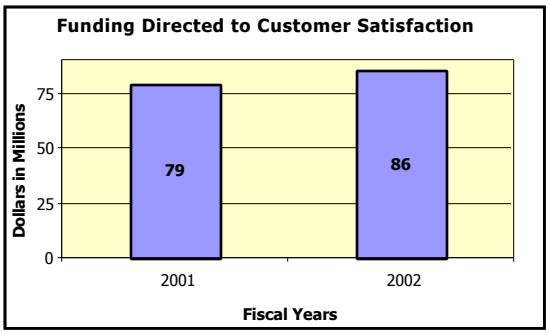
2000 Results: This is a new performance goal in 2002.

During 2000, DOT formed a Department-wide Customer Satisfaction Work Group to assess customer-focus initiatives, and develop an action plan to ensure that DOT has the structure and tools it needs to meet its customer satisfaction goal. The report concluded that many of DOT's agencies and programs had embraced customer satisfaction, but the Department lacked the systematic integration required to achieve maximum benefit and report progress overall. The report defined "customers" as individuals, households, and businesses that either transact business with DOT, or are end-users of the transportation system. The report also recommended that the customer satisfaction goal focus on key DOT constituents and the American public's experience with:

- The United States transportation system;
- The effectiveness of DOT's programs and services; and
- The satisfaction of individuals who conduct business with the Department and its agencies.

FY 2001 Performance Plan Evaluation: DOT expects to achieve its key customer service milestones for 2001. Based on the results of nationwide household and business surveys that are being administered by the Bureau of Transportation Statistics (BTS), along with the results of statistical and qualitative customer satisfaction initiatives already underway in the Department, DOT will synthesize customer satisfaction performance attributes and standards into a baseline for future performance measurement.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



The Bureau of Transportation Statistics will continue to administer the nation-wide Omnibus surveys. ($0.5 million)

DOT will also complete pilot studies of internal systems that have the potential to improve customer satisfaction: human resources and communications. The human resources pilot will address how DOT translates the organizational customer satisfaction goal into individual performance measures; how DOT makes sure that all employees, especially front-line employees, have the customer service training they need; and how DOT makes sure that it has appropriate systems in place to reward employees who demonstrate good customer satisfaction. The communications pilot will improve Internet-enabled customer service by including a customer satisfaction link on DOT's primary web site and on each of the operating administrations' web sites. The goals of these web sites are to provide rapid and reliable answers to the public's questions and to analyze the inquiries to determine customer requirements and needs.

Management Challenge – Airline Mergers, and Customer Service Commitment (IG/GAO)

As stated by the IG, airlines have committed to improving air travel by improving communication with passengers, quoting the lowest available fare, timely return of lost baggage, and taking care of passengers during extended onboard aircraft delays. Extensive flight delays, baggage not showing up on arrival, and long check-in lines remain as major sources of dissatisfaction by air passengers. Efforts to solve these problems have been frustrated by record delays, which translate into customer discontent. Until the FAA, airlines, and airports effectively address these areas, there will continue to be discontent with air travel. Additionally, as GAO has pointed out, the lack of effective competition in certain markets has contributed to high fares and poor service. Increased competition and better aviation service will entail a range of solutions by DOT, the Congress, and the private sector.

DOT has the authority to prevent unfair methods of competition in the airline industry, and this authority is exercised when appropriate to benefit both consumers and competition. The airline industry itself is also responsible in the marketplace to treat its customers well.

Government needs to be the watchdog of competition to ensure that competitive conditions continue to exist. In response to complaints by new entrant airlines that incumbent airlines were engaging in unfair competitive practices, the Department informally investigated major airline responses to entry by low-fare airlines. If complaints have a substantial basis in fact, the Justice Department brings actions against the parties.

The Department of Justice is responsible for determining whether mergers should be challenged on competitive grounds. The Department of Transportation conducts its own analysis of merger transactions and provides its views on competitive issues to the Justice Department.

The DOT General Counsel, FAA, and the Bureau of Transportation Statistics collect and report consumer information to the traveling public to enable the air travel market to operate more efficiently. Reports are regularly made public on airline service quality, flight delays and cancellations, passenger oversales and denied boardings, flight departures and passengers transported.

DOT has a significant backlog of allegations of unfair competition, hoarding airport capacity, oppressive computer reservation system practices and civil rights violations. The 2002 budget requests additional staff to address the complaint backlog and provide more help to individuals with disabilities under the Air Carrier Access Act.

EMPLOYEE SATISFACTION: Many successful organizations focus on employee satisfaction to ensure that they meet the human capital requirements necessary to accomplish mission goals. Studies underscore that a strong level of employee satisfaction has a direct impact on employee effectiveness, which can be gauged by levels of customer satisfaction and organizational performance. DOT defines employee satisfaction as the degree to which employee expectations of the job, workplace, and agency are met or not met. To improve employee satisfaction, DOT is focusing its human resource management strategies in the following areas: learning and development, performance management, worklife, diversity, and occupational safety and health.

Performance measure: Percent of employees satisfied with working for the Department.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	TBD
Actual:	N/A	N/A	N/A	

2000 Results: This is a new performance goal in 2002. During 2000, DOT made progress in implementing its human resources management strategies.

- Learning and Development -- DOT set a minimum investment level of 2 percent of payroll throughout DOT for employee development.

  DOT also linked learning and development (L&D) activities to strategic and workforce planning. By the end of 2000, each operating administration and the Office of the Secretary completed a workforce planning pilot and began to use workforce analysis data to identify competencies needed to perform new or desired functions.

  DOT established a Rotational Assignment Program that, on a voluntary basis, moves individuals laterally and temporarily to positions in organizations other than their own. The program is designed to address corporate needs by offering employees developmental experiences that match future workforce needs and enhance career development. DOT's original goal for FY 2000 was a 5% increase. We found that documenting our progress was a challenge because of variances in tracking procedures; however, we believe the goal was met based on information we were able to compile. Because of the data collection challenge, we also developed tracking procedures that will make it possible to validate our results more precisely beginning in 2001.

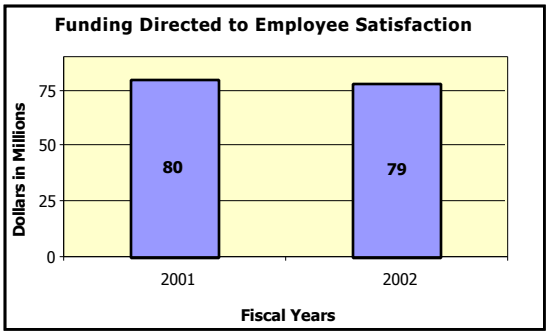
- Occupational Safety and Health -- DOT implemented a strategy to meet the Federal Worker 2000 Presidential Initiative to improve management of occupational safety and health (OSH) and workers' compensation programs. Each operating administration developed operational plans to meet the Presidential goals.

- Diversity -- All DOT operating administrations conducted diversity awareness campaigns and organizational assessments to determine the current and desired state of their organization. Training and other ways of breaking down barriers have been developed and are being implemented.

FY 2001 Performance Plan Evaluation: DOT expects to achieve its key human resource milestones in 2001.

DOT is strengthening its feedback mechanisms to ensure that DOT human resource policies and programs reflect employee input. All DOT operating administrations have employee assessment mechanisms to identify employee satisfaction levels and areas of improvement. A Department-wide team will be formed in 2001 to develop the components of a DOT Employee Satisfaction Index (ESI). The first overall Departmental ESI will be identified by August 2001.

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



During FY 2002, DOT will focus on the following initiatives:

- Worklife -- Expand telecommuting within the operating administrations to achieve participation goals.

- Performance Management -- Measure the effectiveness of the Department's Performance Management Framework for its ability to ensure accountability for managers, supervisors, and employees.

- Occupational Safety and Health -- Continue to work toward achieving the Federal Worker 2000 goals by improving management of the OSH program, improving communication between the DOT senior leadership and OSH personnel, increasing emphasis on workplace inspections, training of OSH professionals, and conducting systematic management evaluations.

ORGANIZATIONAL PERFORMANCE AND PRODUCTIVITY: Through the years, public confidence in Federal programs has suffered from a perception of waste, inefficiency and ineffectiveness. In response, Congress enacted a series of legislative remedies, including the Government Performance and Results Act, to improve Federal performance and accountability and to rekindle the confidence of the American people in their government. Regular and systematic measurement and reporting of program performance, compared to pre-established goals, provides a public accounting of DOT's overall performance and will help to improve the management of the Department.

Performance measure: Percent of goals met or trending in the right direction.

	1999	2000	2001	2002
Target:	N/A	N/A	N/A	75%
Actual:	77%	71%		

2000 Results: This is a new performance goal for 2002.

In the 1997-2002 DOT Strategic Plan, and subsequent annual performance plans, DOT identified six over-arching corporate management strategies and milestones that are key to managing for results. The following is a reporting against the strategies and milestones found in the Corporate Management Strategies chapter of the FY 2000 Performance Plan.

Recognition and Awards: DOT established the Partnering for Excellence Award, the second highest award within DOT, to recognize and reward employees who further the achievement of DOT's strategic goals through cross-organizational partnering.

Best Practices: DOT established an intermodal team of employees to promote and share information throughout the Department about benchmarking and best practices. Seven pilot organizational assessments were completed and additional pilots were solicited for FY 2001.

Human Resources Redesign: DOT developed an on-line, comprehensive Human Resources balanced scorecard survey. Most of DOT's operating administrations have completed at least one baseline survey. Follow-up surveys will be conducted on a two-year cycle, which the operating administrations will use to develop interventions to improve performance.

Workforce Planning: By the end of 2000, each operating administration and the Office of the Secretary completed a workforce planning pilot and began to use workforce analysis data to identify competencies needed to perform new or desired functions.

Managerial and Operational Flexibilities: DOT developed a survey to help evaluate and determine the effectiveness of the waiver and reinvention laboratory processes. A new web site was developed to post approved, disapproved, and pending waivers.

Acquisition Workforce Requirements: DOT met the training and educational requirements of the Clinger-Cohen Act and the Office of Federal Procurement Policy letter 97-01 for the DOT procurement workforce. The number of procurement employees who met the education requirements increased 15% during 2000, versus the goal of 5%. Training numbers increased 81%, versus the goal of 50%. By the end of the year, 45% of the total procurement workforce, including the FAA, had met the education requirements and 38% had met the training requirements.

Performance Baseline for Electronic Commerce: DOT was one of the first Federal agencies to post all of its solicitations electronically on GSA's government-wide portal, beating the regulatory deadline by 18 months. DOT also became one of the first civilian agencies to implement DOD's Central Contractor Registration System, which allows vendors to register one time in order to receive electronic payments on all contracts with DOT. Most DOT operating administrations are in the process of implementing or selecting automated contract writing systems. DOT also contracted with HHS and NIH, at significant savings to the Department, to outsource its systems for collection of contract data and its collection of past performance data.

Purchase Cards: DOT remains one of the leading agencies in the use of the purchase cards. In 2000, DOT surpassed the goal of increasing the use of purchase cards from 85% to 87.5% of simplified acquisitions, ending the year with the usage rate at 93.5%, more than twice the planned increase.

Procurement process customer satisfaction: DOT did not meet its procurement customer satisfaction target of 87.5%; actual year-end satisfaction, including FAA, was 80%. DOT is analyzing the data to determine the cause.

Energy Use: DOT's target was to reduce energy consumption in DOT buildings by 20% compared to 1985. In 2000 we exceeded our annual goal by reducing consumption by 29% on a BTU per square foot basis. Future progress will be slower since actions will be more costly and time-consuming. The Federal goal is a 30% reduction by 2005 and 35% by 2010.

Facility Barriers: DOT completed 137 (or 33 percent) of its 417 plans for removing physical barriers to participation in DOT programs and activities. This was an increase of 9 percent over the previous year.

Information and Technology Management: DOT continued to implement its information and technology management strategy. At the end of 2000:

- DOT reduced paperwork burden hours imposed on the public by 16%, compared to a target of 5% from 1999. This was attributed to two factors: 1) a concerted effort by DOT operating administrations to streamline information collection and 2) an increased use of web-based technology for collection.

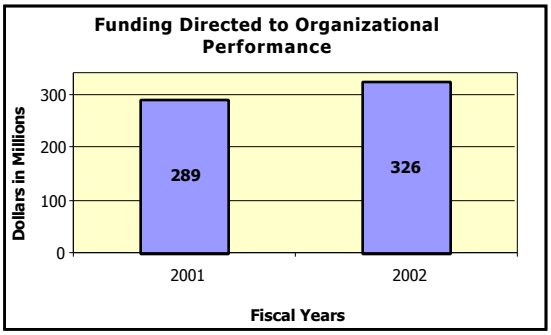
- To facilitate communications, 50% of DOT organizations were migrated to a secure electronic messaging system; more than 90% of DOT organizations were migrated to a standard office automation software suite; and the DOT-wide intranet was upgraded.

- Approximately 95% of DOT's workforce received general security awareness training. Although DOT's goal of 100% was not realized, we believe 95% indicates significant progress towards this goal. DOT is confident that remaining personnel will be trained in 2001.

- DOT's goal of ensuring its IT systems were accessible to all persons with disabilities (in compliance with the revised Section 508 of the Rehabilitation Act) was unavoidably delayed. The Final Rule establishing Federal IT accessibility standards was published in December 2000 and a Department-wide working group was formed to implement the mandate.

2001 Performance Plan Evaluation: DOT expects to achieve most key organizational performance milestones in 2001. However, the DOT IT Security Program Plan has not been finalized and it is unlikely that all of DOT's IT systems will be assessed, tested and certified in 2001, as planned (refer to the IT Computer Security Management Challenge Box).

Strategies and Initiatives to Achieve 2002 Goal: DOT resources attributable to this performance goal are depicted below:



During 2002, DOT will continue to focus on managerial and systems improvements that will better equip the Department's workforce to achieve multi-year strategic and annual performance goals, and to address several Department-wide management challenges. (See below for a discussion of crosscutting management challenges.)

Acquisition Management and Competitive Sourcing:

- Performance-based contracting – DOT's agency-wide Procurement Performance Management System policy includes a measure for Performance Based Service Contracting consistent with the '50% by FY 2005' goal established in the Government-wide Acquisition Performance Measurement Program. In 2002, DOT intends that 20% of all service contracts will be performance based.

- Expanding on-line procurement – DOT will continue to require all procurement solicitations appropriate for electronic posting be conducted electronically through 'FedBizOps' – the one-stop Federal procurement online gateway.

- Expanding A-76 competitions and improving FAIR Act inventories – DOT has outsourced administrative services to a significant degree over the past decade. Of the Full-Time Equivalents (FTEs) on DOT's FAIR Act inventory of commercial activities, the Department will complete cost comparison competitions or direct personnel conversions of 5% of total FTEs listed.

Innovation and Technology: The Department's Research and Technology Coordinating Council, in conjunction with the operating administrations and

Secretarial Offices, will continue to implement a transportation R&D strategic planning process; extend public-private partnerships to enable greater information diffusion, quicker product development, and faster rates of learning; advance some key areas of enabling research identified in the DOT Transportation Research and Development Plan; and continue the coordination of the Department's University Transportation Center program with other Departmental education and training activities to evolve a more developed Departmental University Research and Education Program. Key 2002 milestones are:

- Develop a fourth edition of the DOT Transportation R&D Plan to serve as a basis for research program development, and thereby ensure the Department's R&D activities support the DOT strategic goals, foster innovation by encouraging world-class enabling research and workforce development, and address the provisions of TEA-21 and AIR-21.
- In the context of ongoing policy development activities, develop mechanisms to support Departmental decision makers with complete, accurate and timely information on the Department's R&D activities and their implications for legislation and policy.
- Build on the findings of symposia held by the Volpe Center in 2001 dealing with partnerships, workforce development, and enabling technologies to evolve new mechanisms to promote transportation improvements.
- Ensure that in-house R&D organizations have world-class transportation R&D capability by assessing R&D organization performance relative to their FY 2001 baselines, using Malcolm Baldrige Quality Award Criteria, ISO 9000, or the Software Engineering Institute's Capability Maturity Model certification.
- Conduct the National Research Council peer review of DOT and Federal transportation R&D programs required by TEA-21 to ensure a balanced portfolio that addresses the critical long-term needs of the Department and the Nation. This year's review will focus on the status of Federal transportation-related enabling research activities, as set forth in the third edition.
- Work with key members of the transportation enterprise to identify and eliminate regulatory and legal barriers to innovation, and disseminate information on "best practices" that can accelerate the innovation process.
- Leverage and focus ongoing long-term research activities in the Department and across the Federal Government by bringing together the research and transportation communities to identify areas for collaboration. The Department has identified several top priorities for enabling research, which are cross-cutting and require long-term efforts: Human Performance and Behavior, Advanced Materials/Nanotechnology, and Computer, Information, and Communication Systems.

Information and Technology Management: Key 2002 milestones are:

- Take actions that contribute to achieving a 5% reduction in Information Collection burden hours from FY 2001.
- Provide oversight and monitoring of Departmental progress in meeting the Government Paperwork Elimination Act requirements regarding delivering information and transacting business electronically by October 2003.
- Continue development of the Department's IT Enterprise Architecture.
- Ensure that DOT organizations make sound IT business investments supportive of strategic goals and electronic government, and effectively manage and control their IT capital investment portfolio through implementation of a structured and integrated capital planning and investment control (CPIC) process;
- Review IT capital investments that are common to multiple DOT organizations to achieve operational and economic efficiencies, and advise the Secretary regarding the appropriate acquisition and use of such IT capital assets.

DOT Facilities: Ensure that all DOT facilities meet the highest Federal capital assets management "standards" in terms of accessibility, energy conservation, security systems, technology and maintenance.

Management Challenge – Strategic Human Resource Planning (GAO/OMB)

GAO has stated that the entire Federal Government faces an impending wave of retirements of long-service, highly competent Federal employees. From this arises a large-scale strategic human resource planning issue. While this exodus of talent will not happen overnight, DOT

must plan now to maintain required levels of experience, competencies, and knowledge levels in the Department's 100,000+ civilian and military workforce. Succession planning as well as managing and maintaining adequate institutional knowledge will be crucial for DOT's ability to carry out its functions during this period of high workforce turnover.

DOT has begun a Department-wide strategic workforce planning process not only to maintain, but also improve its organizational performance. Operating administrations have applied an eight-step process developed by DOT to our key occupations and then applied to the remainder of the workforce. This will identify current and future human capital needs, competencies required to meet these needs, and plans for developing the current workforce and/or recruiting to fill the gaps. The workforce planning initiative identified in the Department's Strategic Plan is also addressed in DOT's Human Resource Strategic Action Plan, which further defines tactics to accomplish this initiative. In addition to strategies for enhancing DOT's workforce planning efforts, the Human Resources plan provides strategies and tactics for investing in human capital through strategic hiring plans, techniques and tools to ensure that DOT has the right people in the right positions at the right time.

Management Challenge – Computer Security (Department-wide and FAA) (IG/GAO/OMB)

The IG, GAO, and OMB have identified information system security as a critical government-wide management challenge, and in particular, have identified FAA air traffic control information systems as needing special attention to harden them against malicious or criminal attack.

The DOT Chief Information Officer (CIO) and the newly established DOT CIO Council will lead intermodal efforts to ensure the continued security of our transportation information systems and to make IT systems less vulnerable to attack and other service disruptions, including those caused by natural disasters.

In response to Presidential Decision Directive 63 (PDD-63), DOT has identified its critical IT assets as residing within the FAA and U.S. Coast Guard (no other DOT systems meet the criteria of PDD-63). Critical IT assets have been identified and plans are under development to evaluate, remediate, test and certify these systems in accordance with existing Federal IT Security policy and guidance (Computer Security Act of 1987, OMB Circular A-130, PDD-63, NIST guidance, etc.). FAA and USCG continue to develop their plans for remediating their critical IT systems by the PDD-63 deadline of May 2003. To judge our progress, we have set the following goals:

- By June 30, 2001, FAA and USCG will develop an overall PDD-63 compliance schedule for their critical IT systems.
- By November 30, 2001, DOT will have completed certification and authorization for 25% of its critical systems.
- By June 30, 2002, DOT will have completed certification and authorization for 60% of its critical systems.
- By September 30, 2002, 100% of vulnerability assessments will be completed.
- By May 31, 2003, 100% of remediation and testing will be completed.

These and other steps will ensure that DOT systems are adequately protected by the deadline of May 2003.

In addition to the FAA's and USCG's focus on complying with PDD-63's requirements, DOT will issue a comprehensive IT Security Program that will require certification of DOT IT Systems in accordance with OMB Circular A-130. To judge our progress, we have set these goals for DOT Systems:

- By April 30, 2001, the IT Security Program Plan will be issued (we did not accomplish this by the planned date).
- Within 120 days after issuance of the DOT IT Security Program Plan, OAs will develop an overall strategy/plan for ensuring their IT Assets are in compliance with this Plan.

FAA established the Office of Information Systems Security (AIS) to provide information systems security (ISS) direction, guidance, and policy. The FAA has developed a concept of operations, approach, and major milestones to address ISS issues and protect the agency's information assets. The FAA ISS approach focuses on protecting the operational capability of its facilities, which requires an integrated approach to information systems, personnel, and

physical security at each facility. FAA completed and distributed FAA Order 1370.82, Information Systems Security Program, which establishes policy and assigns organizational and management responsibilities to ensure implementation of the Computer Security Act of 1987, OMB Circular A-130, and other guiding policies and directives. In addition, the FAA CIO published the ISS Architecture, Version 1.1, which provides guidance in terms of standard ISS technical safeguards for the agency's information systems. Other efforts are underway to protect both the infrastructure and to ensure that new systems incorporate ISS. These efforts include:

- Authorizing and certifying computer security systems;
- Training FAA personnel in security awareness and vulnerability assessments; and
- Improving intrusion detection capability.

Management Challenge – Departmental Rulemaking (IG)

The IG observed that rulemaking sometimes takes too long and the Department needs to improve timeliness in its rulemaking process. The IG recommended that DOT develop measurable objectives for issuing timely, quality rules.

DOT General Counsel will work with the operating administrations to improve the rulemaking process, with the objective of developing in a timely manner rules that advance goals that are cost-beneficial to the public.

In 2001, DOT will:

- Start a DOT-wide rulemaking training course to ensure compliance with new and existing regulatory requirements.
- Develop a training program on the rulemaking process for incoming senior management officials in the operating administrations and the Office of the Secretary.
- Provide rulemaking guidance and best practices, including economic analysis and plain language.
- Create and manage a Department-wide rulemaking tracking and monitoring system to identify problems occurring both Department-wide and at the individual operating administrations and work with the involved offices to implement corrective action.

DOT and FAA Audited Financial Statements (IG/GAO/OMB)

Fiscal Year 2000 marks DOT's fifth audited consolidated financial statement under the Government Management Reform Act's requirement to prepare audited financial statements for all DOT activities. Prior to this, financial statements were limited to trust, revolving and commercial funds. As indicated by the IG, GAO, and OMB, the introduction of all DOT activities to the Department's financial accounting has presented a significant management challenge, requiring DOT to develop more comprehensive cost accounting systems, and – most critically – to develop improved record keeping and valuation procedures for property, plant, and equipment. This last requirement remains a significant challenge for the FAA, whose direct provision of services to the public involves significant capital assets. DOT has tackled its financial management challenges full force.

FAA continues to address asset management problems through detailed corrective action plans extending over multiple years and involving numerous offices. FAA has initiated actions that will provide an integrated financial and asset management solution. Requirements for new financial statement formats are being addressed in the Department's current core accounting system and with the implementation of a new DAFIS Financial Statements Module II.

DOT's FY 2000 Consolidated Financial Statement received a "qualified" opinion from the IG, due to ongoing issues in FAA's accounting for Plant, Property, and Equipment.

Complete resolution will be assured with the full implementation of Delphi, the Department's commercial off-the-shelf core accounting system replacement.

With respect to FAA Financial Management, these goals have been set:

- Convert to the DELPHI accounting system in 2001.

- Achieve unqualified audits in FYs 2001 and 2002.
- Implement cost accounting throughout the agency by FY 2002.
- Establish fees for the provision of ATC Overflight services.

Management Challenge – Departmental Business Practices

Contract Closeout (IG/OMB)

Proper and timely administrative closure of contracts has been identified by the IG as an area for improvement. Properly closed contracts ensure that the Government pays only what it properly owes, upon presentation of a properly accounted for invoice by Departmental contractors, and that any excess obligated funds can be de-obligated and deployed elsewhere.

DOT has taken action to require DOT contracting officers to: (1) review all completed contracts on an annual basis to ensure that only those funds necessary to pay the contractor's final invoice are retained under the contract, (2) take full advantage of contract quick closeout procedures, (3) have all contractors comply with closeout requirements, and (4) comply with DOT policy on monitoring of contract closeouts.

Government Performance and Results Act Implementation (IG/OMB)

The IG has noted that GPRA requires Federal agencies to develop five-year strategic plans, annual performance plans and annual performance reports. The IG further noted that DOT's strategic and performance plans have been rated by Congress as the best in the Federal Government. To continue this success, DOT needs to improve the reliability and timeliness of its performance data, and provide better linkages between budgets and performance results.

DOT has acknowledged that increasing the validity, reliability, timeliness and comparability-over-time of performance data will be a challenging task. In its most recent strategic plan, DOT included a data improvement strategy under each strategic goal. To improve DOT's data capacity, the BTS is leading the development of standards for DOT's data, training people in the collection and interpretation of transportation data, and coordinating data series among operating administrations. In FY 2001, BTS with support from the operating administrations will develop data quality standards and compile past-year data for every measure in the performance plan, along with confidence intervals for each measure. DOT will also develop the statistical tools to help evaluate and formulate its performance goals. In FY 2002, DOT will develop leading indicators for its strategic goals and most DOT performance measures to help anticipate trends in each of these outcomes. DOT will also complete an assessment of data quality for the major data collection systems in DOT, and document the major sources of error in all of DOT's performance measures. In FY 2004, consensus data standards will be in use throughout DOT.

Beginning with the FY 2002 performance plan, DOT has more closely linked budgeted amounts with each performance goal. This performance plan allocates the Department's budget request to specific outcome and performance goals, not just strategic goals. The Department will continue to refine its attribution process in subsequent plans to aid strategic decision-making.

Management Challenge – Management of Large Transportation Infrastructure Projects (IG/GAO/OMB)

Monitoring of the cost, schedule, and performance of "mega projects" is critical to identify problems and initiate action to mitigate risks as soon as possible. The Department has identified and initiated steps to improve its oversight of these projects by developing a comprehensive, standard oversight approach. Elements of this approach include vigorous enforcement of financial reporting requirements, designating accountable oversight managers for "mega projects", and taking timely action to protect Federal interests on projects designated as "at risk." FHWA and FTA have developed new guidance for financial reporting on infrastructure projects greater than $1 billion. Critical analysis of these plans will ensure the Department is provided complete and consistent reporting of basic standardized financial data. Fully developed finance plans have been useful in identifying emerging cost and funding shortfalls in projects.

The Department will continue to improve institutional and personal accountability systems to

ensure that large transportation infrastructure projects are adequately managed and periodically reviewed by a high-level Departmental Council.

In 2001, DOT is taking the following actions:

Establishing project oversight, by designating competent oversight managers who are personally accountable for proper Federal oversight; and establishing Integrated Product Teams to assist the oversight manager. Professional certifications for Federal oversight managers will be funded, and grant recipients' project management staff will be required to have professional certifications.

Establishing a formal management and reporting framework, by creating a DOT Executive Council to review project oversight; fostering a collaborative relationship between Federal project oversight managers and grant recipients to facilitate communications; and requiring grant recipients to submit project management plans with agreed-upon oversight provisions and which incorporate "Earned Value Management". Additionally, projects with significant deviations from cost and schedule baselines will be designated as "at risk". Grant agreements will provide financial incentives for comprehensive project management systems, and will insure that a dedicated funding source exists for independent oversight reviews.

Insuring accountability by incorporating mega-project oversight into DOT Strategic and Performance Plans; inviting external audits, and by providing proper incentives for excellent oversight performance by DOT employees.

DOT operating administrations will also ensure that controls against fraud, waste and abuse of Federal infrastructure grant funds are strengthened. DOT will conduct outreach to grant recipients and will work with States to heighten awareness ways to curtail fraudulent activities, and to maintain good accountability for grant expenditures. DOT will take the following steps in 2001 and 2002:

- FHWA will conduct joint training sessions with the IG for state and local highway agencies on fraud indicators and reporting procedures and will coordinate with the transportation and highway industry to include the IG as a resource for reporting allegations of fraud, waste, and abuse on Federal-aid infrastructure construction projects;
- FTA will emphasize fraud prevention and detection in the course of Triennial Reviews and other oversight tools; and
- FAA will coordinate with airport authorities to conduct fraud awareness briefings and training.

Performance Measurement, Verification and Validation

Performance measurement is dependent on the availability of high quality data. All data are imperfect in some fashion. Pursuing "perfect" data, however, may consume public resources without creating appreciable value. For this reason, there must be an approach that provides a high degree of accuracy but at a reasonable cost and within specified timelines. This section of the Performance Plan/Performance Report provides information on how DOT reports on performance, verifies and validates data, assesses limitations of the data, and plans for improving DOT's data.

Performance Reporting

In an attempt to bring consistency and quality to its performance reporting, DOT has implemented some general rules regarding the data it uses and how it is evaluated.

Annual data – Whenever available, the data in this document are reported on a Federal Government fiscal year basis. However, there are instances where this is not possible so calendar year data are used instead. For example, this often occurs when data are collected and reported to DOT by external sources and a calendar year reporting requirement is specified in the implementing regulation. Additionally, the measures for DOT's Transportation and Education performance goal present a further complication in that they are reported based on a "school year." The reporting timeframe (FY, CY or SY) for each measure is included in the Data Details in Appendix I.

Annual results – If available, the results for the most recent year in the Report are listed as "Actual" in the Performance Goals & Results box for each performance measure. However, given the March deadline for submission of the Performance Report, quite often data have not been compiled and finalized for the entire year. When this occurs and an actual value is not available for the current year, either an estimate or projection is provided instead. In general, estimates are based on partial year data that are extrapolated to cover a full 12-month period. For example, if six months of data are available, they will be compared to prior years for the same six-month period to determine any variation from past levels. Historical trend information, supplemented by program expertise, will then be applied to estimate the remaining six months of performance. The result will be identified as a "preliminary estimate" in the Report. If partial year data are not available, then past trend information will be analyzed and supplemented by program knowledge to develop a projected value for the annual performance measure. The result will be identified as a "projection" in the Report. As data are finalized, the projections and preliminary estimates will be replaced by actual results in subsequent reports. This may also occur for data from years prior to the current year. Past year results may be amended as errors and omissions are identified in the data verification process, because updated information is provided by the reporting sources, or because of legal or other action that changes a previously reported value. For example, updated pipeline spill reports may change the status of a previously reported value used in performance measurement.

Historical data – Because performance results in a given year are influenced by multiple factors, many of which are beyond the control of DOT and some of which are due to random chance, there may be considerable variation from year to year. (See discussion in Appendix I.) A better "picture" of performance may be gained by looking at results over time to determine if there is a trend. Therefore, graphs are provided for each measure showing trend lines back to 1990, or as many years as possible if data are not available back to 1990. Additionally, a table is included at the beginning of each strategic goal section giving the available data from 1994 through 2000 for measures with performance goals specified for 2000.

Verifying & Validating Performance Measures

Integral to performance measurement is understanding data limitations, addressing these limitations where necessary and cost-effective, and acknowledging those that remain when interpreting results. This section on verification and validation provides a DOT-wide overview of our plan for assessing the quality of the data DOT uses to measure its performance, and follows the GAO definitions for verification and validation:

"Verification is the assessment of data completeness, accuracy, consistency, timeliness, and related quality control practices."

"Validation is the assessment of whether data are appropriate for the performance measure."

Virtually all data have errors. In Appendix I we have provided the following information about the data used for each performance measure: source of the data, limitations of the data, observations about the quality of the data, work planned or ongoing to improve data quality, and any known biases.

Additionally, we have compiled Source and Accuracy Statements for each of the DOT data programs used in this report, which can be found at www.bts.gov/statpol/SAcompendium.html. The Source and Accuracy Statements give more detail on the methods used to collect the data, sources of variation and bias in the data, and methods used to verify and validate the data.

By validating data used in the DOT performance plan, we are ensuring that those data are reflective of the phenomena they purport to measure. The Office of the DOT Inspector General (OIG) plans to selectively verify and validate performance measurement data each year. When pertinent to the conduct of ongoing projects, OIG will also assess performance measures to determine their appropriateness for measuring progress toward stated goals. These assessments may lead to changes in the goals, improvements to or additions of data collection systems, or both.

Assessing and, where possible, eliminating sources of error in DOT data collection programs has always been an important task for data program managers. As a part of their ongoing work, managers of Departmental data programs use quality control techniques, such as flowcharting the data collection process, to identify where errors can be introduced into the data collection system. Program managers also use computerized edit checks and range checks to minimize errors that may be introduced into the data of their respective programs. In addition, quality measurement techniques are employed to measure the effects of unanticipated errors. These include verification of data collection and coding, as well as coverage, response and non-response error studies to measure the extent of human error affecting the data. As sources of error are identified, steps are initiated to improve the data collection process.

The data used in measuring performance come from a wide variety of sources. Much of the data originates from sources outside the Department and, therefore, outside the direct control of the Department. The data often come from administrative records or from sample surveys. While DOT may not have a strong voice in improving the quality of outside data, the Department takes all available information about the limitations and known biases in outside data into account when using the data.

The myriad data sources make the task of assessing and, where possible, eliminating error a challenging one for DOT. Different data systems contain different types of errors. For example, data from administrative records systems may have missing or incorrect records, and data from sample surveys will contain sampling error.

Several measures (particularly in safety) require aggregation across transportation modes. This can be particularly problematic because of the use of different definitions in different transportation modes. Also, data from outside the Department may have unknown error properties.

To help the operating administrations address these issues, the Bureau of Transportation Statistics (BTS) is developing a statistical policy framework where the operating administrations will work together to identify and implement the current statistical "best practices" in all aspects of their data collection programs. This project is consistent with the data capacity discussions found in the DOT Strategic Plan.

In 2000, the BTS-led intermodal working group addressing DOT data quality issues continued to:

- develop Departmental statistical standards;
- update Source and Accuracy Statements for all DOT data programs to document limitations and known errors and biases;
- improve quality assurance procedures;
- evaluate sampling and non-sampling error; and
- develop common definitions for data across modes.

BTS's statistical staff is consulting with the DOT operating administrations' data program managers to assist in data evaluation and validation, documenting data sources, and determining the reliability of performance measurement estimates.

Departmental data systems managers use these data verification methods:

- Comparisons with previous data from the same source.
- Comparisons with another reliable source of the same type of data within DOT for the same time period.

- Comparisons with another reliable source of the same type of data within DOT for a previous time period.
- Comparisons with another reliable source of the same type of data outside DOT for the same time period.
- Comparisons with another reliable source of the same type of data outside DOT for a previous time period.

In addition to computerized edit checks and clerical review procedures to look for outliers, duplicate records, and data inconsistencies, data managers also verify data quality at each step of the data collection process using these procedures:

- Re-collecting/re-interviewing all (or a sample of) records and reconciling with the original collection. (This applies to census or sample survey data collections from administrative records, organizations, or individuals.)
- Conducting 100 percent (or a sample of) data re-coding and reconciliation to assess and correct coding errors.
- Conducting 100 percent (or a sample of) data re-entry and reconciliation to assess and correct data entry errors.

The American Travel Survey's re-interview program, in which a sample of households were re-contacted and differences reconciled, is an example of a verification system within a data collection program.

Data Limitations in Performance Measures

DOT Data Source Limitations – Timeliness is the most significant limitation for DOT performance measurement data. Some DOT data are not collected annually. For example, the National Household Travel Survey and the Commodity Flow Survey each collect data every five years. Systems that do collect data each year (or more frequently) require time to analyze, confirm and report results. For example, Highway Performance Monitoring System vehicle-miles traveled (VMT) data require several months of post-collection processing, making final results unavailable for this performance report.

Other performance measurement data limitations can be found in the previously mentioned Source and Accuracy Statements for DOT data programs. These statements contain descriptions of data collection program design, estimates of sampling error (if applicable), and discussions of nonsampling errors. Nonsampling errors include undercoverage, item and unit non-response, interviewer and respondent response error, processing error, and errors made in data analysis.

As part of its mandate in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), and its plans for a statistical policy framework in the Department, BTS is working on a program of research, technical assistance, and data quality enhancement to support the continued improvement of data programs in DOT. This will help data program managers throughout DOT improve data quality and better document known data limitations. BTS also assists operating administrations with data collection and documentation.

Many of DOT's internal data programs rely on State DOTs to collect reliable statistics within cost constraints. While we work closely with our State DOT partners, we do not have direct control over these data.

External Data Source Limitations - Timeliness is also a significant limitation for external or third-party data. Other limitations of external data are noted in the comments for each performance measure in Appendix I. In some cases, DOT has replaced external data, where little is known about the quality of the data, with internal data. For example, DOT has used estimates of person-miles traveled (PMT) from private organizations, absent any better estimate. The 1995 Nationwide Personal Transportation Survey and American Travel Survey give DOT data with known error properties that allow a better estimate of PMT.

Our Data Needs

The DOT Strategic Plan 2000 – 2005 identifies data needs for each of the Department's strategic goals. They include:

Safety – DOT will undertake major efforts over the next several years to improve safety data. Safety has always been our primary strategic goal, and in 1999 DOT created a Safety Data Action Plan to better organize data improvement efforts. BTS will lead efforts to: 1) develop common criteria for reporting injuries and deaths; 2) develop common data on accident circumstances; 3) improve data quality; 4) develop better data on accident precursors; 5) expand the collection of near-miss data to all transportation modes; 6) develop a variety of

common denominators for safety measures; 7) advance the timeliness of safety data; 8) link safety data with other data; 9) explore options for using technology in data collection; and 10) expand, improve and coordinate safety data analysis.

- In 2001, DOT will complete implementation plans for these projects and begin those that can be done with available resources.
- In 2002, DOT will begin implementing the remaining plans.

Over the next several years, DOT will improve data sources in the following areas:

Mobility – All mobility outcomes present complex measurement issues. Accordingly, DOT will: 1) develop ways of measuring user transportation cost, time, and reliability with time-series data; 2) develop better approaches for measuring access; 3) develop straightforward measures of congestion and its costs; 4) produce more timely and comprehensive data on the condition and use of the transportation system; and 5) develop a more complete understanding of variables influencing travel behavior.

Economic Growth – DOT needs aggregate data for measuring the productivity, effectiveness and efficiency of the U.S. transportation system. We plan to collect, analyze and disseminate data and information that identify critical trends and issues relating to transportation's nexus to the U.S. economy. DOT will: 1) develop a means of measuring transportation cost, time, and reliability – at an aggregate level – with time-series data; 2) develop a comprehensive measure of the transportation capital stock; 3) improve our view of changes in the transportation workforce; 4) develop better measures of productivity in the transportation sector, and other issues concerning use of Producer Price Indices; and 5) develop a better picture of transportation-related variables influencing U.S. competitiveness in the global economy.

Human and Natural Environment – DOT will: 1) develop comparable and complete data on transportation emissions, noise, hazardous materials releases, and wetlands impacts; 2) improve our understanding of collateral damage to the human natural environment; 3) create better leading indicators for potential environmental issues; and 4) develop a reliable method of measuring the environmental benefits of bicycling and walking.

National Security – Existing performance data sources are generally good, but data are insufficient for measuring some outcomes. DOT will address the following deficiencies: 1) more complete flow data for drug and illegal migrant interdiction programs; 2) data sources for the transportation system's dependence on foreign fuel supplies and vulnerabilities to supply disruptions; and 3) the vulnerability of the transportation system to intentional acts of disruption or destruction.

Appendix I – Performance Measures (Detail)

Each table includes a description of a performance measure and associated data provided by the agencies in charge of the measure. The Scope statement gives an overview of the data collection strategy for the underlying data behind the performance measure. The Source statement identifies the databases used for the measure and their proprietary agencies. The Limitations statement describes some of the shortcomings of the data in quantifying the particular performance characteristics of interest. The Statistical Issues statement has comments, provided by the Bureau of Transportation Statistics (BTS) and the agency in charge of the measure, that discuss variability of the measure and other points. The Verification and Validation statement indicates steps taken by the proprietary agencies to address data quality issues.

BTS strongly believes that full compliance with the Government Performance and Results Act requires impartial reporting of the statistical uncertainty associated with numerical performance measures. A portion of this uncertainty is related to the methodology used to calculate the performance measure and the accuracy of the underlying data. For example, the use of samples introduces uncertainty because estimates are used in lieu of actual counts. Also, there may be errors in the data collected. However, there are many other sources of variation (e.g., nonsampling errors, climate effects, new technology), and they are often difficult to quantify. Nonetheless, a combination of past data and expert judgment can enable uncertainty statements that are order-of-magnitude correct for even the most difficult problems.

The standard error of a performance measure indicates the likely size of the chance variation in the reported number. It incorporates both the effects of measurement error, survey error, and so forth, as well as the variation that occurs naturally from year to year (i.e., even if there were no change in laws, infrastructure conditions, or human behavior, there would still be chance variation in an annual count of fatalities). DOT success in meeting GPRA goals must be viewed in the context of this background noise.

In many of the following Statistical Issues statements, BTS refers to regression standard error. This is a modification of the standard error to take into account linear trends in the recent past. Such adjustment is generally needed to incorporate consistent trends due to cumulative effects of such things as education programs, changing demographics, the gradual adoption of new technologies, and so forth. The underlying assumptions are that: over a short time period the trend of the measurement data is linear; for any given year the performance measure values are normally distributed; and the standard deviation is the same for all years. We believe that these assumptions lead to a conservative estimate of variability.

The regression standard error is an estimate, calculated from the annual performance results, of this common standard deviation. It may be used in the same way as a regular standard error to set confidence intervals or describe uncertainty. For the purposes of performance measurement, it may be considered a rough approximation of the annual variability in a measure, and it will include the effects of program initiatives, influences beyond the control of DOT (e.g., weather, petroleum prices, etc.), random chance, and errors inherent in the data.

For further information about the source and accuracy (S&A) of these data, please refer to the BTS S&A compendium available at www.bts.gov/statpol/SAcompendium.html.

Details on DOT Measures of Safety

Transportation Safety

Measure:

1. **Transportation fatalities. (CY)**
2. **Fatalities per 100 million passenger-miles. (CY)**
3. **Fatalities per 100 million ton-miles of freight. (CY)**
4. **Transportation injuries. (CY)**
5. **Injuries per 100 million passenger-miles. (CY)**
6. **Injuries per 100 million ton-miles of freight. (CY)**
7. **Transportation incidents. (CY)**

Scope: To present a consolidated high-level depiction of transportation safety, these measures aggregate fatalities, injuries and incidents across all modes of transportation (air, highway, railroad, transit, waterborne and pipeline).

The fatality and injury rates per 100 million passenger-miles include fatalities and injuries from all modes except pipelines, and are adjusted to eliminate double counting.

The fatality and injury rates per 100 million ton-miles of freight include fatalities and injuries from large truck, rail, waterborne and pipeline transportation and from cross-modal data, such as highway-rail grade crossing fatalities and injuries. Ton-miles of freight covers intercity truck, rail, water and oil pipeline transportation. No aviation data is included since fatality and injury data for passenger and cargo operations are not separately kept.

Transportation "incidents" aggregate all transportation accidents and incidents, including crashes, system failures, spills, releases, and other events of a similar nature.

Source: The data for these measures are obtained from *National Transportation Statistics* published annually by the Bureau of Transportation Statistics. Information is taken from the following tables: Transportation Fatalities by Mode; Injured Persons by Transportation Mode; U.S. Passenger-Miles (Millions); U.S. Ton-Miles of Freight (Millions); and Transportation Accidents by Mode. The one exception is the data on large truck fatalities and injuries used for calculating fatality and injury rates per 100 million ton-miles of freight, which are obtained from the Federal Motor Carrier Safety Administration.

Limitations: Double counting of fatalities and injuries may occur when an accident involves more than one mode of transportation. Differing definitions of injuries or transportation-related fatalities make comparison across modes of transportation problematic. Highway injuries and incidents are obtained from a nationally representative probability sample and are estimates, while the totals for other modes of transportation are actual counts. The highway estimates are based on crashes where a police accident report was completed and the crash resulted in property damage, injury or death. Accidents that were not reported to the police or did not result in property damage are not included. Highway passenger-miles are calculated by multiplying vehicle-miles of travel (VMT) by the average number of occupants for each vehicle type. VMT is based on a nation-wide sample of vehicle travel. The average number of vehicle occupants comes from survey information. Therefore, vehicle passenger-miles is an estimate, whereas passenger-miles for other modes of transportation are calculated based on actual passenger counts and recorded trip lengths.

Statistical Issues: All fatality totals, and the injury and incident numbers where actual counts are recorded, are relatively accurate. Any double counting or omissions are expected to be fairly small. The primary source of uncertainty in these measures comes from sampling and survey errors related to estimation of highway injuries, incidents, VMT, and vehicle occupancy. Based on data from 1993-1999, annual variations in each measure have the following regression standard errors: transportation fatalities - 0.7 per thousand; injuries - 0.14 per million; incidents - 0.27 per million; fatality rate per 100 million passenger-miles - 0.020; injury rate per 100 million passenger-miles - 0.007; fatality rate per 100 million ton-miles of freight - 3.82; and injury rate per 100 million ton-miles of freight - 0.29.

Verification & Validation: BTS compiles the data for the *National Transportation Statistics* from information it gathers directly in its own data systems (e.g., airlines information), information published by other sources (e.g., FHWA highway statistics), or by personal communication with the agency/organization responsible for collecting the data. Each data source conducts error checks and monitors the accuracy of its data. Most of these sources and their verification and validation procedures are described in subsequent data details in this report for performance measures of individual modes of transportation.

Comment: While caution should be exercised in comparing fatalities, injuries and incidents between modes of transportation due to differences in definitions and calculations, the aggregation of these values still provides useful information. Because the methodology for calculating these measures has remained consistent over the years, the trend information should provide a reasonably accurate picture of results.

Highway fatality rate Page 13

Measure:	**Fatalities per 100 million vehicle-miles of travel (VMT) (CY)**

Scope: The number of fatalities is the total number of motor vehicle traffic fatalities which occur on public roadways within the 50 States and Washington, D.C.

Vehicle-Miles of Travel (VMT) represent the total number of vehicle miles traveled by motor vehicles on public roadways within the 50 States and Washington, D.C.

Source: Motor vehicle traffic fatality data are obtained from NHTSA's Fatality Analysis Reporting System (FARS). To be included in FARS, a motor vehicle traffic crash must result in the death of a vehicle occupant or a non-motorist within 30 days of the crash. The FARS database is based on police crash reports and other State data. FARS includes fatalities on all roadways open to the public, using the National Highways System classification of roads. Pedestrian and bicycle fatalities that occur on public highways, but do not involve a motor vehicle, are not recorded in FARS. However, they constitute only a small number of fatalities.

VMT data are derived from FHWA's Traffic Volume Trends (TVT), a monthly report based on hourly traffic count data in the Highway Performance Monitoring System (HPMS). Information is transmitted to NHTSA where it is reviewed for consistency and accuracy before being entered into the system. These data, collected at approximately 4,000 continuous traffic counting locations nationwide, are used to determine the percentage change in traffic for the current month from the same month of the previous year. The percentage change is applied to the nationwide travel for the same month of the previous year to obtain an estimate of nationwide travel for the current month. The data are recorded as monthly totals and cumulative yearly totals.

Limitations: VMT data are subject to sampling errors, whose magnitude depends on how well the locations of the continuous counting locations represent nationwide traffic rates. HPMS is also subject to estimating differences in the States, even though FHWA works to minimize such differences and differing projections on growth, population, and economic conditions which impact driving behavior.

Statistical Issues: The primary source of uncertainty in estimating fatality rates is the denominator. While the estimate of total fatalities used in the numerator is relatively accurate, the estimate of total vehicle-miles in the denominator has far more variability. Based on data from 1993-1999, the annual variation in the fatality rate has a regression standard error of 0.022.

The estimates of the number and percentages of persons killed in motor vehicle traffic crashes during 2000 are preliminary and are based on NHTSA's Early Assessment.

Verification & Validation: Fatality data from FARS are reviewed and analyzed by NHTSA's National Center for Statistics and Analysis. Quality control procedures are built into annual data collection at 6 and 9 months, and at year's end. A study was completed in 1993, looking at samples of FARS cases in 1989 through 1990 to assess the accuracy of data being reported. VMT data are reviewed by FHWA for consistency and reasonableness.

Comment: This data program has been in use for many years and is generally accepted for describing safety on the Nation's highways. Adjusting raw highway fatalities and injuries by VMT provides a means of portraying the changes in highway fatalities on a constant exposure basis and facilitates year-to-year comparisons.

Highway injured persons rate

Page 13

Measure:	**Injured persons per 100 million vehicle-miles of travel (VMT) (CY)**

Scope: The number of injured persons is an estimate of the total number of persons injured in motor vehicle traffic crashes that occur on public roadways in the 50 States and Washington, D.C.

Vehicle-Miles of Travel (VMT) represent the total number of vehicle-miles traveled by motor vehicles on public roadways within the 50 States and Washington, D.C.

Source: The number of injured persons data are derived from the NHTSA's National Automotive Sampling System (NASS) General Estimates System (GES). The NASS GES is a nationally representative probability sample that yields national estimates of total nonfatal injury crashes, injured persons, and property-damage-only crashes. NASS GES data cover all roadways open to the public, using the National Highways System classification of roads.

VMT data are derived from FHWA's monthly report, Traffic Volume Trends (TVT), a monthly report based on hourly traffic count data in the Highway Performance Monitoring System (HPMS). Information is transmitted to NHTSA where it is reviewed for consistency and accuracy before being entered into the system. These data, collected at approximately 4,000 continuous traffic counting locations nationwide, are used to determine the percentage change in traffic for the current month from the same month of the previous year. The percentage change is applied to the nationwide travel for the same month of the previous year to obtain an estimate of nationwide travel for the current month. The data are recorded as monthly totals and cumulative yearly totals.

Limitations: GES data are obtained from a nationally representative sample of 60 sites. The results provide only national data, not State level data, and are subject to sampling error. The magnitude of the sampling error depends on the number of Primary Sampling Units (PSUs) in the sample and the number of crash reports sampled within each PSU.

VMT data are subject to sampling errors, whose magnitude depends upon how well the continuous counting locations represent nationwide traffic rates. HPMS is subject to estimating differences in the States, although FHWA works to minimize such differences and differing projections on growth, population, and economic conditions which impact driving behavior.

Statistical Issues: The estimate of the injury rate includes three main sources of uncertainty. The numerator count of injuries has a standard error of 5.1% (cf. Appendix C of *Traffic Safety Facts*). The denominator estimate of VMT contains both complex sampling and non-sampling errors. Based on data from 1993-1999, the annual variation in the injury rate has a regression standard error of 5.68.

The estimates of the number and percentages of persons injured in motor vehicle traffic crashes during 2000 are preliminary and are based on NHTSA's Early Assessment.

Verification & Validation: Data are reviewed and analyzed by NHTSA's National Center for Statistics and Analysis. Quality control procedures are built into annual data collection at 6 and 9 months, and at year's end. A study was completed in 1993, looking at samples of FARS cases in 1989 through 1990 to assess the accuracy of data being reported. VMT data is reviewed by FHWA for consistency and reasonableness.

Comment: This data program has been in use for many years and is generally accepted for describing safety on the Nation's highways. GES records injury severity in four classes: incapacitating injury, evident but not incapacitating injury, possible but not visible injury, and injury of unknown severity. Adjusting raw highway fatalities and injuries by VMT provides a means of portraying the changes in highway fatalities on a constant exposure basis – to facilitate year-to-year comparisons.

Alcohol-related highway fatalities Page 16

Measure:	**Percentage of highway fatalities that are alcohol-related. (CY)**

Scope: The number of fatalities resulting from motor vehicle traffic crashes that are alcohol-related and occur on public roadways within the 50 States and Washington, D.C.

Source: Motor vehicle traffic fatality data are obtained from NHTSA's Fatality Analysis Reporting System (FARS). FARS is a census of fatal motor vehicle traffic crashes within the 50 States, Puerto Rico, and Washington, D.C. To be included in FARS, a crash must result in the death of a vehicle occupant or a non-motorist within 30 days of the crash. The FARS data are based on police crash reports and other State data. FARS includes fatalities on all roadways open to the public, using the National Highways System classification of roads. Pedestrian and bicycle fatalities that occur on public highways, but do not involve a motor vehicle, are not recorded in FARS. However, they constitute only a small number of fatalities. A fatal motor vehicle traffic crash is alcohol-related if either a driver or a non-motorist (such as a pedestrian) involved in the crash had a measured or estimated blood alcohol concentration (BAC) of 0.01 grams per deciliter or above.

Limitations: Blood Alcohol Concentration test results are not available for all drivers and non-occupants involved in fatal crashes. Missing data can result for a number of reasons -- the most frequent of which is that persons are not always tested for alcohol. To address

the missing data issue, NHTSA has developed a statistical model to estimate the likelihood that a fatal crash involved a driver who was sober (BAC of zero), had some alcohol (BAC of 0.01-0.09), or was intoxicated (BAC of 0.10 or greater) at the time of the crash. The statistical model, which has been in use since 1986, is based on important characteristics of the crash including crash factors, vehicle factors, and person factors. While this measure does not link alcohol with fault in fatal crashes, the more comprehensive scope of the measure compensates for a possible undercount of the extent of the alcohol-impaired driving problem.

Statistical Issues: The primary sources of uncertainty in this performance measure arise from information gaps in the number of intoxicated non-motorists, and from using the statistical model to estimate the number of intoxicated drivers. Based on data from 1993-1999, the annual variation in the percentage of highway fatalities that are alcohol-related has a regression standard error of 0.82%.

The estimates of the number and percentages of persons killed in motor vehicle traffic crashes during 2000 included in this section are preliminary and are based on NHTSA's Early Assessment.

Verification & Validation: Data are reviewed and analyzed by NHTSA's National Center for Statistics and Analysis. Quality control procedures are built into annual data collection at 6 and 9 months, and at year's end. In 1987 and 1988, an independent panel of academics reviewed and commented on the statistical methods used in measuring alcohol-related highway fatalities. This report supported the approach currently in use, but also recommended that research and development continue with the aim of developing a model that would permit the imputation of missing BACs as a semi-continuous variable.

Comment: This data program has been used for many years and is generally accepted for describing safety on the Nation's highways. In 2000, this performance measure was revised to reflect the percentage of highway fatalities that are alcohol-related. NHTSA believes that percentage targets are better annual measures because they factor in the overall traffic fatality number and can be predicted with greater precision than total numbers of alcohol-related fatalities.

Large truck-related fatalities Page 18

Measure:	**Number and rate of fatalities involving large trucks. (CY)**

Scope: The measure includes all fatalities (e.g., drivers and occupants of passenger cars, motorcycles, large trucks, or pedestrians) associated with crashes involving trucks with a gross vehicle weight rating of 10,000 pounds or more. The number of fatalities comes from NHTSA's Fatality Analysis Reporting System (FARS) data, a census of fatal traffic crashes within the 50 States, Puerto Rico, and Washington, D.C. The fatal crash rate is the number of fatalities per 100 million vehicle-miles of large truck travel (VMT).

Source: NHTSA's Fatality Analysis Reporting System (FARS) provides fatality data. The VMT data are derived from the Federal Highway Administration's (FHWA) Highway Performance Monitoring System (HPMS).

Limitations: FARS data elements are modified from year to year to respond to emphasis areas, vehicle fleet changes, and other needs for improvement. Large truck VMT reported to FHWA by each State is based on a sample of road segments and is not a census. In addition, the methods used to calculate total VMT may vary from State to State. The methods used by the States to estimate the VMT contribution from rural and urban minor collectors are unknown.

Statistical Issues:	The fatality counts in FARS are generally quite accurate. The major sources of error are underreporting by some precincts and inconsistent use of the definition of a truck. Based on 1993-1999 data, the chance variation in a given year has a regression standard error of approximately 126 fatalities. Because the VMT data provided to FHWA from each State are estimates based on a sample of road segments, the numbers have associated sampling errors. The methodology used by each of the States to estimate VMT is not known and may introduce additional non-sampling error. Although States provide VMT estimates on an annual basis, they are only required to update their traffic counts at all sampling sites once every three years. Thus, an annual VMT estimate from a particular State may be based, in part, on data collected during a previous year. Based on 1993-1999 data, the chance variation in a given year in the number of fatalities per 100 million vehicle miles of large truck travel has a regression standard error of 0.05.
Verification & Validation:	Fatality data are reviewed and analyzed by NHTSA's National Center for Statistics and Analysis. Quality control procedures are built into data collection and data processing. A study using samples of 1989-1990 FARS cases was completed in 1993 to assess the accuracy of data being reported. FHWA routinely works with State data providers to modify reported VMT values that do not appear reasonable before incorporating them into its final master file.
Comment:	The FARS data have been around for many years and are generally accepted as a good source for describing fatal crashes on the Nation's highways. The large truck VMT data used to calculate fatal crash rates have both sampling and non-sampling (i.e., bias) error associated with them. The impact of these errors on FMCSA's estimates of large truck crash rates is considered to be minimal.

Large truck-related injured persons Page 18

Measure:	**Number and rate of injured persons involving large trucks. (CY)**
Scope:	The measure includes all injured persons (e.g., drivers and occupants of passenger cars, motorcycles, large trucks, or pedestrians) associated with crashes involving trucks with a gross vehicle weight rating of 10,000 pounds or more. The number of injured persons is derived from NHTSA's General Estimates System (GES). The injury rate is the number of injured persons per 100 million vehicle-miles of large truck travel (VMT).
Source:	NHTSA's General Estimates System (GES) provides injury data. VMT data are derived from the Federal Highway Administration's (FHWA) Highway Performance Monitoring System (HPMS).
Limitations:	GES data are obtained from a nationally representative sample of 60 sites. The results provide only national data, not State-by-State data. Large truck VMT reported to FHWA by each State is based on a sample of road segments and is not a census. In addition, the methods used to calculate total VMT may vary from State to State. The methods used by the States to estimate the VMT contribution from rural and urban minor collectors are unknown.
Statistical Issues:	The GES data have a standard error of 7.9% for injuries from truck and automobile crashes (cf. Appendix C of *Traffic Accident Reports*). They are less accurate than the corresponding fatality counts. Based on 1993-1999 data, the variation due to random chance in the number of injuries, which includes sampling variability, has a regression standard error of approximately 7,890. Because the VMT data provided to FHWA from each State are estimates based on a sample of road segments, the numbers have associated sampling errors. The methodology used by each of the States to estimate VMT is not known and may introduce additional non-sampling error into the estimates.

Although States provide VMT estimates on an annual basis, they are only required to update their traffic counts at all sampling sites once every three years. Thus, an annual VMT estimate from a particular State may be based, in part, on data collected during a previous year. Based on 1993-1999 data, the chance variation in a given year in the number of injured persons per 100 million vehicle miles of large truck travel has a regression standard error of 5.29.

Verification & Validation: Injury data are reviewed and analyzed by NHTSA's National Center for Statistics and Analysis. Quality control procedures are built into data collection and data processing. FHWA routinely works with State data providers to modify reported VMT values that do not appear reasonable before incorporating them into its final master file.

Comment: The data program has been around for many years and is generally accepted for describing safety on the Nation's highways. GES records injury severity in four classes: incapacitating injury, evident injury but not incapacitating, possible but not visible injury, and injury of unknown severity. The large truck VMT data used to calculate injured persons rates have both sampling and non-sampling (i.e., bias) error associated with them. The impact of these errors on FMCSA's estimates of large truck crash rates is considered to be minimal.

Recreational boating fatalities Page 21

Measure:	**Number of recreational boating fatalities. (CY)**

Scope: Measure includes fatalities occurring aboard vessels that are being operated for recreational purposes. Surfboards, iceboats, and vessels engaged in sanctioned racing events are not considered recreational vessels. Fatalities are included if caused by a fire, explosion, sinking or other occurrence involving a recreational vessel, and the vessel or associated equipment caused or contributed to the fatality. Fatalities are not included if they occurred aboard a recreational vessel, but were caused by self-inflicted wounds or natural causes. Fatalities are also excluded if they occurred while the victim was engaged in other activity such as swimming or diving, where the vessel was used as a platform only and was not a contributing factor to the fatality. Beginning last year, the measure for Recreational Boating was revised by adding an additional 6% to the aggregate number of reported fatalities to correct for an estimated 6% underreporting of recreational boating fatalities.

Source: Coast Guard Boating Accident Report Database (BARD). Data is entered into BARD by state administrators who collect data from boat owners and operators through formal Boating Accident Reports, as instructed in 33 CFR 173c.

Limitations: Fatality data is derived from reports submitted by the public along with accompanying State investigation reports. There is consensus among the Coast Guard, the States, safety professionals, and other researchers that most fatalities that occur on inland and most coastal waters are under-reported. To better quantify the extent of possible under-reporting, the Coast Guard initiated and funded an analysis of BARD data conducted by the Boat Owners Association of the United States (BOAT/U.S.) Foundation for Boating Safety. The study found some fatalities involving recreational boating in the Coast Guard's Search and Rescue Management Information System (SARMIS) that were not in BARD. However, although the study reported a 9% discrepancy, further analysis revealed that some of these findings would not be reportable as recreational boating fatalities. There is also consensus that under-reporting exists for fatalities occurring offshore, and aboard U.S. recreational boats operating overseas. Also, although there are guidelines as to what constitutes a recreational boating fatality, there is still an element of interpretation at the State level in reporting fatalities. It is probable that the States

do not always interpret the guidelines in the same manner. Overall, the best estimate indicates that total fatalities are currently under-reported by at least 6%.

Statistical Issues: The discrepancy between BARD and the Search & Rescue Management Information System (SARMIS) amounts to 6% of the total reports for those States covered by SARMIS. The numbers given in this report have been adjusted to correct the deficiency. Also, note that since the boating fatality counts are influenced by weather, gasoline prices and other external factors, annual chance variation should be large. Using data from 1993 through 1999, the annual variation in the number of fatalities attributable to random chance has a regression standard error of 46.2.

Verification & Validation: Fatality data in BARD is verified and validated by State boating administrators and Coast Guard program managers. At the end of the calendar year, the Coast Guard compiles State fatality data and sends a report to each State for confirmation. Both State and Coast Guard officials review the statistics, including sampling of cases to ensure guidelines for classifying fatalities were followed. Any discrepancy is reconciled jointly by the State and Coast Guard program manager.

Comment: Data are not normalized for increases or decreases in the number or usage of boats, which tends to limit data use in making comparisons over time. The number and usage of recreational boats has increased over the past 2 decades, while the raw number of fatalities has generally decreased.

The BOAT/U.S. review of BARD data for 1993 through 1997 identified underreporting in BARD of 8% in 1993 and 1994, 12% in 1995, 13% in 1996 and 8% in 1997. The Coast Guard reviewed BOAT/U.S.'s findings for 1995, 1996, and 1997. Each record for these years was checked and fatalities that were incorrectly labeled as recreational boating fatalities by BOAT/U.S. were removed from the count. Based on this revised count of recreational boating fatalities with mislabeled fatalities removed, the Coast Guard estimates that 7%, 8% and 4% of all recreational boating fatalities were not captured in its Boating Accident Report Database (BARD) in 1995, 1996 and 1997, respectively, for purposes of this report. The median of these numbers – 6% - has been used to adjust recreational boating safety data for 1993, 1994, 1998 and 1999, and to reset the goals for 1999 through 2001. The original goal of 720 has been increased by 6% to 763 for 2000.

The Coast Guard is in the process of commissioning a comprehensive National Boating Survey to obtain valid and reliable information on boating practices, safety, and exposure. This information will enable safety officials to assess boating risk, implement appropriate safety intervention strategies, and measure the effectiveness of program activities in reducing the risk and negative outcomes associated with the use of recreational boats. Data from this study will be used to further address underreporting issues and estimate reporting discrepancies in BARD but will not be available for over two years. This study is on-track and is scheduled to begin data collection in September 2001.

Mariner rescue - (FY 2001 - FY 2002) Page 23

Measure:	**Percent of all mariners in imminent danger who are rescued. (FY)**

Scope: Includes people in water; on shore; and aboard a vessel, offshore structure, pier, or vehicle that are in distress or in urgent need of assistance. The Coast Guard makes a final determination on scene whether there is imminent danger, based on criteria that include the nature of distress, the condition of the vessel, the people onboard, and the environmental conditions. Criteria for this decision are discussed in search and rescue doctrine publications.

Source: CG Search and Rescue Management Information System (SARMIS). Data is collected from Coast Guard field units that conduct search and rescue responses.

Limitations: It is probable that some number of imminent danger cases, and the associated lives, are not reported in SARMIS. This includes situations where no distress call was received by the Coast Guard and the persons in distress were rescued by private citizens or local government personnel, or where the persons in distress perished without trace. The extent of this under-reporting is not known. There is some judgment involved in assessing whether mariners are in danger. However, there is likely to be consistency in these assessments across years. 1994 data is skewed upward by a large surge of migrants interdicted at sea, most of whom were counted as "rescued," thus increasing the percentage of lives reported as saved. Reporting no longer includes migrants interdicted; they are counted directly as migrants interdicted under law enforcement activity. Prior to the introduction of the next generation data system in October 2000, data entry was limited to closed cases, after a rescue has been successfully completed or after the recovery of a body. The new data system now allows missing bodies to be tracked. In this first year of data, more cases than expected were found where bodies were not recovered. Before adding this number into our data analysis, we will track this number to assure that this represents a data trend and not an unusual aberration. Errors may be introduced in SARMIS through data entry, but are likely rare for lives saved data elements.

Statistical Issues: The primary source of uncertainty consists of non-sampling errors. The second generation data system, brought on-line on October 1, 2000, reduces error due to miscoding through the use of more extensive drop down menus, machine generated case numbers, structured data boxes, and more extensive business rules eliminating the selection of data not consistent with other entered data. The regression standard error for year-to-year chance variation is 3.6% for the percentage of mariners rescued, based on data from 1993 through 1999.

Verification & Validation: The SARMIS data entry system uses structured entry values, check boxes, and pull down selection lists to limit entry errors. The use of plain language descriptions eliminates a majority of erroneous data code selection. Additional system business rules also eliminate the selection of data not appropriate with other entered data. The SAR Mission Coordinator (SMC) is responsible for accurate entry of particular case data by all units involved in the case. CG Program Managers annually validate the data in SARMIS. Entries are reviewed at Coast Guard District offices as the first step in validation – errors and inconsistencies are identified and corrected. Finally, Coast Guard Headquarters program managers review compiled data annually to assess consistency with historic variance and trends. This review includes: curvilinear regression analysis to compare current data to historic data, and a program review analysis to identify and resolve aberrations.

Comment: Beginning in FY 2001, this measure will cover all mariners in distress reported in SARMIS. The previous measure covered only mariners reported in distress that were rescued. The significance of the 87.5% result for FY 1999 is uncertain at this point; FY 1995-1998 data show a flat trend at 84%. It is not known if the FY 1999 result was produced by anomalous factors, or if it is the product of program strategies and a changing external environment. Therefore, the goal target remains at 85% until more analysis is completed. For FY 2000, the preliminary estimate of the measure was 82.7 percent of all lives, bringing the number below the average since 1995 and slightly below the goal, but certainly within normal variation.

Measure:	1. Percent of mariners reported in imminent danger who are rescued. (FY) 2. Percent of property reported in imminent danger saved. (FY)

Scope: For mariners, the measure includes people in water; on shore; and aboard a vessel, off-shore structure, pier, or vehicle that are reported to the Coast Guard as being in distress or in urgent need of assistance. For property, the measure indicates value of property that is reported to the Coast Guard as being in imminent danger of being lost. The Coast Guard makes a final determination on scene whether there is imminent danger, based on criteria that take into account the nature of distress, condition of the vessel, the people onboard, and the environmental conditions. Criteria for this decision are discussed in search and rescue doctrine publications. Value of property is determined through means including sales, financial and insurance records, comparisons to similar property, and owner/operator input.

Source: Coast Guard Search and Rescue Management Information System (SARMIS). Data is collected from Coast Guard field units that conduct search and rescue responses.

Limitations: It is probable that some number of imminent danger cases, and the associated lives and property, are not reported in SARMIS. This includes situations where no distress call was received by the Coast Guard and the persons in distress were rescued by private citizens or local government personnel, or where the persons in distress perished without trace. The extent of this under-reporting is not known. There is also some judgment involved in assessing whether mariners or property are in imminent danger. Judgment is also involved in assessing property value where assessed values are not available. However, there is likely to be consistency in these assessments across years. 1994 data is skewed upward by a large surge of migrants interdicted at sea, most of whom were counted as "rescued," thus increasing the percentage of lives and property reported as saved. Reporting no longer includes migrants interdicted; they are counted directly as migrants interdicted under law enforcement activity. Prior to the introduction of the next generation data system in October 2000, data entry was limited to closed cases, after a rescue has been successfully completed or after the recovery of a body. The new data system now allows missing persons to be tracked. In this first year of data, more cases than expected were found where bodies were not recovered. Before adding this number into our data analysis, we will track this number to assure that this represents a data trend and not an unusual aberration. Errors may be introduced in SARMIS through data entry, but are likely rare for lives/property saved data elements.

Statistical Issues: The primary source of uncertainty consists of non-sampling errors. The second-generation data system, brought on-line on October 1, 2000, reduces error due to miscoding through the use of more extensive drop down menus, machine generated case numbers, structured data boxes, and more extensive business rules eliminating the selection of data not consistent with other entered data. The regression standard error for year-to-year chance variation in the measures are 1.48% for the percentage of mariners rescued, and 9.1% for the percentage of property saved, based on data from 1993 through 1999.

Verification & Validation: The SARMIS data entry system uses structured entry values, check boxes, and pull down selection lists to limit entry errors. The use of plain language descriptions eliminates a majority of erroneous data code selection. Additional system business rules also eliminate the selection of data not appropriate with other entered data. The SAR Mission Coordinator (SMC) is responsible for accurate entry of particular case data by all units involved in the case. CG Program Managers annually validate the data in SARMIS. Entries are reviewed at Coast Guard District offices as the first step in validation – errors and inconsistencies are identified and corrected. Finally, Coast Guard

Headquarters program managers review compiled data annually to assess consistency with historic variance and trends. This review includes: curvilinear regression analysis to compare current data to historic data, and a program review analysis to identify and resolve aberrations.

Comment: After FY 2000, the mariner-rescued measure will be changed from all mariners reported in distress to all mariners in distress, and the property measure will be discontinued.

Passenger Vessel Fatalities – (FY 2001 – FY 2002) Page 25

Measure:	**Fatalities aboard passenger vessels. (FY)**

Scope: This measure is an indicator of passenger safety. It includes reportable marine casualties resulting in the death or disappearance of a passenger aboard any U.S. vessel (regardless of type or location) or aboard foreign flag vessels in U.S. waters. Exceptions include death/disappearance of "non-passengers", whenever the cause of death/disappearance is classified as being from diving, natural causes (e.g., heart attack), or whenever the death/disappearance is the result of an intentional act (e.g., suicide, altercation). Fatalities on recreational vessels are not included for two principal reasons: Recreational vessels are prohibited from carrying "passengers" and recreational vessel fatalities are measured and reported separately.

Source: Passenger fatality source data is obtained from the Coast Guard Marine Safety Information System (MSIS). Passenger fatalities are reported to the Coast Guard as required by federal regulations. Sources of reports are most often vessel masters, operators, owners, insurance companies, legal representatives, and other mariners.

Limitations: The investigation, retrieval, analysis and reporting processes result in under-reporting for the most recent year, with the most significant effects over the most recent 5 months. Estimates are often used to compensate for this known data-lag. The Coast Guard initiates about 40-50 civil penalty cases for failure to report marine casualties, although many of these are for minor casualties. In addition, some passenger fatalities may not be reported to the Coast Guard. This number is unknown. Some passenger injuries may ultimately prove fatal and lead to death; some missing passengers may be found. These numbers may not be updated to reflect the changes in status. The number is believed to be small. Duplicate casualty entries are sometimes entered into MSIS, and some casualties are mistakenly omitted or coded incorrectly. Verification procedures strive to correct these errors, but it is probable that a small number are not corrected. The data retrieval & reporting processes do not allow automated distinction between all death types (e.g. natural vs. accidental). As a result, some natural deaths or suicides may be inadvertently included.

Statistical Issues: The major sources of uncertainty in this measure are the estimation error (as a result of the data-lag) and the reporting error (as a result of the inability to distinguish between which deaths should be included and which should be excluded).

Verification & Validation: Verification and validation occurs at several levels. Edit checks within MSIS software can detect some incorrect or missing data and force review and correction before data entry is completed. Selection lists for certain data fields also reduce the opportunity for data entry error. All investigations go through review at the field unit for accuracy. Investigations of serious marine casualties are also usually reviewed at district and headquarters offices. The headquarters Data Administration staff conducts periodic quality control checks to identify entry errors such as missing data or miscoding, and corrects any errors identified. Errors identified are referred to either the Data Administration staff or the Investigations and Analysis staff for correction.

Comment: This measure replaces an earlier measure of the risk of major loss of life on passenger vessels. This change will focus attention on actual deaths/disappearances. The earlier measure tracked incidents that may lead to death/disappearance.

During FY 2001, the Marine Safety Information System (MSIS) will be replaced by the Marine Information System for Safety and Law Enforcement (MISLE). While the new system will be a significant improvement, it is expected to cause serious difficulties in making performance comparisons. One factor is that many business processes were re-designed in conjunction with system development. Another factor is that data quality under MISLE is expected to be superior to that of MSIS. While this represents improvement, it may cause near-term problems in making meaningful comparisons of data between the two systems.

Passenger Vessel Safety – (FY 1999 – FY 2000) Page 25

Measure:	**Number of high-risk passenger vessel casualties per 1,000 vessels. (FY)**

Scope: This measure is an indirect indicator of the risk of major loss of life, and serves as a leading indicator of passenger vessel safety. High-risk passenger vessel casualties (the numerator) include anytime a fire, explosion, capsizing, flooding, allision, collision, capsizing, grounding, or sinking occurs on a vessel that meets the following criteria: commercial passenger vessel, carrying more than 6 passengers, operating in U.S. navigable waters (if foreign flag) [Note: U.S. flag vessels meeting the aforementioned criteria are counted without regard to the location where the casualty occurred]. The total number of passenger vessels (denominator) is a Coast Guard count of all inspected passenger vessels embarking passengers in U.S. ports.

Source: Passenger vessel casualty source data (numerator) and count of all inspected passenger vessels embarking passengers in U.S. ports (denominator) are obtained from the Coast Guard Marine Safety Information System (MSIS). Passenger vessel casualties are reported to the Coast Guard as required by federal regulations. Sources of reports are most often vessel masters, operators, owners, insurance companies, legal representatives, and other mariners.

Limitations: The investigation, retrieval, analysis and reporting processes result in under-reporting for the most recent year, with the most significant effects over the most recent 5 months. Estimates are often used to compensate for this known data-lag. In addition, some high-risk casualties may not be reported to the Coast Guard. This number is unknown. Duplicate casualty entries are sometimes entered into MSIS, and some casualties are mistakenly omitted or coded incorrectly. Verification procedures strive to correct these errors, but it is probable that a small number are not corrected. It is also possible that errors exist in the data for number of passenger vessels, although this error, if it exists, is probably extremely low.

Statistical Issues: The major sources of uncertainty in this measure are the estimation error (as a result of the data-lag) and the response error (as a result of parties failing to report casualties to the Coast Guard).

Verification & Validation: Verification and validation occurs at several levels. Edit checks within MSIS software can detect some incorrect or missing data and force review and correction before data entry is completed. Selection lists for certain data fields also reduce the opportunity for data entry error. All investigations go through review at the field unit for accuracy. Investigations of serious marine casualties are also usually reviewed at district and headquarters offices. The headquarters Data Administration staff conducts periodic quality control checks to identify entry errors such as missing data or miscoding, and

corrects any errors identified. Each investigation involving the loss of a vessel is reviewed before it is included in the measure. Errors identified are referred to either the Data Administration staff or the Investigations and Analysis staff for correction.

Comment: This measure was often misinterpreted as a measure of deaths on passenger vessels. Rather, it measures events (passenger vessel accidents) that increase the risk of a major loss of life on passenger vessels. As a result of the confusion, the Coast Guard is replacing this measure with a measure of fatalities on passenger vessels. Coast Guard managers will continue to use the high-risk passenger casualties measure for internal performance and risk management as appropriate.

During FY 2001, the Marine Safety Information System (MSIS) will be replaced by the Marine Information System for Safety and Law Enforcement (MISLE). While the new system will be a significant improvement, it is expected to cause serious difficulties in making performance comparisons. One factor is that many business processes were re-designed in conjunction with system development. Another factor is that data quality under MISLE is expected to be superior to that of MSIS. While this represents improvement, it may cause near-term problems in making meaningful comparisons of data between the two systems.

Rail accident and fatality rates Page 27

Measure:	**1. Rail-related fatalities per million train-miles. (CY)** **2. Train accidents per million train-miles. (CY)**

Scope: The fatality measure includes anyone on rail property, any on-duty railroad employee, and anyone killed by a train or its contents. It does not include fatalities on trains or rail lines that do not connect to the national rail network, such as mass transit operations, certain excursion and tourist railroads, and some industrial railroads not connected to the general system. The only railroad fatalities that are not counted are suicides (as determined by a public official) and death by natural cause not associated with railroad operations. Train accidents do not include those at grade crossings. They are reported under the performance goal for highway-rail grade crossing accidents.

Source: *Railroad Safety Statistics – Annual Report*. Statistical data, tables, and charts depict the causes and nature of rail-related fatalities and accidents. Data on fatalities, accidents, and train miles are reported to FRA by railroad companies.

Limitations: Because of the scope of the reporting criteria, some fatalities that are counted are not associated directly with operation of the trains, and some railroad fatalities are not counted. This scope is consistent with the regulatory authority of the agency, but not consistent with other modes of transportation for comparative purposes.

Statistical Issues: The reported estimates are based upon partially reported data from 2000. Based on data from 1993-1999, chance variation from year to year, as reflected in the regression standard error, is 0.228 for train accidents and 0.071 for rail fatalities.

Verification & Validation: Railroads are required by law to submit monthly accident/incident reports to FRA. They are also required to update any inaccurate or incomplete information. FRA conducts routine data audits (records inspections) to verify the adequacy of railroad reporting and record keeping requirements.

Comment: The train accidents measure will be discontinued in the DOT Plan after 2000, but will be retained in the FRA Performance Plan.

Transit fatality and injured person rates Page 29

Measure:	1. Transit fatalities per 100 million passenger miles traveled. (CY) 2. Transit injured persons per 100 million passenger miles traveled. (CY)

Scope: The data include both riders and employees. A fatality is defined as a transit-caused death from collision, personal casualty, fire, derailment, or bus going off the road. An injury is defined as any physical damage or harm to a person requiring medical treatment caused by a transit collision, personal casualty, fire, derailment, or bus going off the road.

Source: FTA's Safety Management Information System (SAMIS), with data reported by transit operators to the National Transit Database (NTB).

Limitations: Because of the scope of the reporting criteria, some fatalities that are counted are not associated directly with transit operation. This scope is consistent with the regulatory authority of the agency, but not consistent with other modes of transportation for comparative purposes.

Statistical Issues: The fatality and injury counts in SAMIS are generally quite accurate---the major source of error in the measure comes from uncertainty in the passenger miles traveled. Based on 1993-1999 data, the chance variation in a given year has a regression standard error of 0.039 for the transit fatality rates and 4.059 for the transit injury rates.

Verification & Validation: An independent auditor and the transit agency's CEO certify that data reported to the NTD are accurate. Using data from the NTD to compile the SAMIS data, the Transportation Systems Center compares current safety statistics with previous years, identifies questionable trends, and seeks explanation from operators.

Comment: None.

Seat belt use Page 31

Measure:	Percentage of front occupants using seat belts. (CY)

Scope: The proportion of front seat outboard passenger vehicle occupants using shoulder belts during daylight hours.

Source: Data for 1998, 1999, and 2000 are from the National Occupant Protection Use Survey (NOPUS). NOPUS is a National, multi-stage probability sample. In the first stage, counties or groups of counties (Primary Sampling Units or PSUs) were grouped by region (Northeast, Midwest, South, and West), level of urbanization (metropolitan or not), and level of belt use (high, medium, or low). Fifty PSUs were selected based on the vehicle miles of travel in those locations. In the next stage, a random sample of eight (8) Census Tracts was selected within each of the PSUs. In the final stage, a sample of ten (10) roadway segments for all types of roads was selected within each Census Tract. In the even numbered years, shoulder belt use of front seat outboard (driver and right front seat) passenger vehicle (passenger cars, vans, sport utility vehicles, and pickup trucks) occupants was observed during daylight hours at each of the 4,000 sampled roadway segments. In 1999, a Mini-NOPUS consisting of observation at a subsample of 2,000 of the 4,000 roadway segments was conducted.

Estimates of national shoulder belt use for other years shown in the graph are based on State belt use surveys. These surveys are conducted by most of the 50 States and the

District of Columbia. For the years shown, these surveys varied in coverage, design, and observation methods. National averages were obtained by weighting the most recently provided State belt use estimate by the population of the State.

Limitations: NOPUS data are based on a random sample of sites and, therefore, are subject to sampling error. For the estimate of overall National shoulder belt use from the 2000 NOPUS Survey, sampling error was estimated to be 1.4 percentage points. Additionally, observation of shoulder belt use is restricted to daylight hours.

State belt use surveys have been conducted in many different ways. Less than half of the States conducted probability based surveys and the rest were based on other methods. Additionally, most States conducted surveys that observed use only for those occupants and vehicles covered by their State belt use law. After enactment of a grant program in the ISTEA of 1991, some 24 States had surveys that met design criteria specified by NHTSA.

Statistical Issues: The primary source of uncertainty in NOPUS is sampling errors. The most recent estimate shown in this report is based on a probability sample, and the survey bias and reweighting are complex. For State surveys, uncertainty derives from disparities among the different surveys conducted by the States, the use of non-probability samples by many of the States, the differences in persons and vehicles observed, the differing methodologies and processes followed to collect data on the persons and vehicles observed, and the procedures used to estimate overall belt use. To compute the National average from State rates for a specific year, when a State did not conduct a survey or provide NHTSA with an estimate, the most recent rate provided by that State was substituted. Also, weighting State averages by population may have overstated the contributions of some States. Based on data from 1993-1999, the annual variation in the seat belt use rate has a regression standard error of 1.21.

Verification & Validation: NOPUS data collection is managed by a survey research contractor who has responsibility to hire and train the data collectors/observers. Before data collection begins, NHTSA reviews and approves all the training materials and Data collectors observers must pass a 2-day training course. The data contractor also conducts on-scene "surprise" quality control visits to ensure that observations are made correctly and data are coded properly. Numerous edits are also employed in the data processing. NHTSA reviews the data provided by the contractor for consistency. NHTSA reviewed and approved the survey designs and data collection procedures for 24 States as a result of a grant program authorized by the ISTEA of 1991. NHTSA, however, did not conduct any quality review or validation of the data collection and estimation processes employed by the States during or after data collection for the years shown.

Comment: None.

Air carrier fatal accident rate Page 33

Measure:	**Fatal aviation accidents (U.S. commercial air carriers) per 100,000 departures. (FY)**

Scope: This measure includes both scheduled and nonscheduled flights of large U.S. air carriers (14 CFR Part 121) and scheduled flights of commuter airlines (14 CFR Part 135). It excludes on-demand (i.e., air taxi) service and general aviation.

Source: Part 121 and Part 135 departure data is submitted to BTS under 14 CFR Parts 241 and 298, respectively. NTSB provides accident data.

Limitations:	The fatal accident rate in these categories is small and could significantly fluctuate from year to year due to the occurrence or non-occurrence of a single accident.
Statistical Issues:	The switch from calendar to fiscal year in 2001, combined with the use of departures rather than flight hours as the activity measure for the denominator, present new problems. The FAA has no independent data sources to validate BTS-collected departure data as it did with flight hour data. To overcome reporting delays of 60 to 90 days, FAA must rely on historical data, partial internal data sources, and Official Airline Guide (OAG) scheduling information to project at least part of the fiscal year activity data. Due to the reporting procedures in place, it is unlikely that calculation of future fiscal year departure data will be markedly improved. Lacking complete historical data on a monthly basis and independent sources of verification increases the risk of error in the activity data. The regression standard error for the annual variation in the fatality rate, based on data from 1993–1999, is 0.023.
Verification & Validation:	The FAA does comparison checking of the departure data collected by BTS; however, FAA has no independent data sources against which to validate the numbers submitted to BTS. FAA compares its list of carriers to the DOT list to validate completeness of the reporting list and places the carriers in the appropriate category (i.e., Part 121 or Part 135). NTSB and FAA's Office of Accident Investigation meet regularly to validate the accident count.
Comment:	The joint government/industry group working on improving the level of safety for U.S. commercial aviation has determined that departures is a better measure to use for determining accident rates. In a recent report on the Safer Skies effort, the Government Accounting Office agreed and recommended that the FAA use departures.

General aviation fatal accidents Page 36

Measure:	**Number of fatal general aviation accidents. (FY)**
Scope:	The measure includes on-demand (non-scheduled FAR Part 135) and general aviation. General aviation comprises a diverse range of aviation activities. The range of general aviation aircraft includes single-seat homebuilt aircraft, helicopters, balloons, single and multiple engine land and seaplanes including highly sophisticated extended range turbojets.
Source:	National Transportation Safety Board (NTSB).
Limitations:	The use of the 1996-1998 timeframe for the baseline represents one of the safest periods in general aviation history in terms of a decline in fatal accidents. The number of general aviation accidents reported in any given year might change in subsequent years. There are many reasons for these changes to the historical data. Primary among them is that the accident had not been reported to the NTSB, or that it was misreported and the information corrected at a later date.
Statistical Issues:	There is no significant error in the accident counts. Random variation in air crashes results in a significant variation in the number of fatal accidents over time. The regression standard error in this variation for 1996 through 1999 is 14.7.
Verification & Validation:	NTSB and FAA's Office of Accident Investigation meet regularly to validate the information on the number of accidents.

Comment: It would be preferable to use fatal accident rates rather than fatal accidents as the performance measure. However, general aviation flight hours are based on an annual survey conducted by the FAA. Response to the survey is voluntary. The accuracy of the flight hours collected is suspect and there is no readily available way to verify or validate the data. For this reason, the General Aviation community is unwilling to use a rate measure until the validity and reliability of the survey data can be assured.

Runway incursions Page 38

Measure:	**Number and rate (per 100,000 operations) of runway incursions. (FY)**

Scope: Runway incursions are the result of ground collision hazards or loss of separation for aircraft in the process of taking off or landing. They are grouped in three general categories: operational errors, surface pilot deviations, and vehicle/pedestrian deviations. Incursions are reported and tracked at airports that have an operational air traffic control tower. "Operations" are total takeoffs and landings.

Source: Air traffic controllers and pilots are the primary source of runway incursion reports. The data is recorded in the FAA National Incident Monitoring System (NAIMS).

Limitations: Preliminary incident reports are evaluated when received. Evaluation can take up to 90 days.

Statistical Issues: There are no significant sources of systematic error in quantified runway incursion data. The regression standard error in the reported number of incursions, based on 1993-1999 data, is approximately 11.5. The regression standard error in the incursion rate, based on 1996-1999 data, is approximately .009.

Verification & Validation: Surface incidents are reported in the Administrator's Daily Bulletin at the beginning of each weekday. Surface incidents are evaluated to determine if they should be classified as incursions. Incidents are evaluated against the official runway incursion definition. The Air Traffic Runway Safety Program Manager, ATP-20, makes the final decision regarding runway incursions.

Comment: None.

Air Traffic Operational Errors Page 41

Measure:	**1. Operational errors per 1 million activities. (FY)** **2. Deviations per 100,000 activities. (Discontinued after FY 2000) (FY)**

Scope: An error occurs when separation between aircraft is less than the separation determined necessary for the specific phase of flight. An operational deviation occurs when an aircraft enters airspace without prior coordination. "Activities" are total facility activities, as defined in Aviation System Indicators 1997 Annual Report. Total facility activities are the sum of en route and terminal facility activities.

Source: FAA air traffic facilities have a software program called Operational Error Detection Patch (OEDP) that detects possible operational errors and sends alert messages to supervisory personnel. Facility management reviews OEDP alerts and data provided from the National Track Analysis Program (NTAP) to determine if an operational error has occurred. Controllers are required to report both operational errors and operational deviations. The information is summarized in the FAA Air Traffic Operational Error and Deviation Database.

Limitations: There is a lag of a few months in reporting data because of the need to investigate significant incidents. The severity of errors is not measured. Minor errors such as a 4.5-mile rather than a 5-mile separation are counted in the same way as more serious errors. Data are available for 1994 and following years.

The Inspector General (IG) is currently conducting an audit of reporting on operational errors. The IG believes that there is a potential for underreporting of operational errors, as some errors are self-reported. The FAA disagrees with this assessment because there are significant penalties for not reporting an operational error.

Statistical Issues: Like the runway incursion data described above, there are no significant sources of systematic error in the operational errors and deviations data that have been quantified. Again, random variation in operational errors and deviations results in a significant variation in the measured rates over time. The regression standard error in the operational error rate, based on 1993-1999 data, is .026. The regression standard error in the deviation rate, based on 1994-1999 data is .022.

Verification & Validation: FAA performs system checks and counts daily against reported data to ensure the accuracy of information reported.

Comment: In August 1998, the FAA discovered and corrected a misunderstanding of the procedures used in interpreting separation reported by the National Track Analysis Program and the data provided by the Operational Error Detection Patch. The corrected application of these procedures, while not affecting safety, has resulted in an overall increase in the number of errors reported between 4.6 and 4.9 miles separation (standard separation in these cases is 5 miles).

Highway-rail grade crossing accidents Page 43

Measure:	**Grade-crossing accidents divided by the product of: 1) million train-miles and 2) trillion vehicle-miles-traveled. (CY)**

Scope: The measure includes all collisions with on-track equipment and highway users at public and private grade crossings.

Source: Collisions and train-miles are reported in FRA's *Railroad Safety Statistics – Annual Report*. Vehicle-miles-traveled (VMT) are obtained from the FHWA Office of Highway Information Management.

Limitations: Because the denominator includes all highway VMT and not just VMT that are exposed to grade crossings, the rate portrayed may be lower than the actual risk.

Statistical Issues: Trains and automobiles have different exposures at rail crossings---the denominator used here attempts to combine these. The numerator is based on partially reported 2000 data. The annual variation by chance from year to year as measured by the regression standard error is 0.056, based on data from 1993-1999.

Verification & Validation: FRA's Office of Safety has a review process to ensure that railroads and the States comply with Federal reporting requirements in the preparation of the FRA *Railroad Safety Statistics - Annual Report*.

Comment: The measure is a ratio of total highway-rail grade crossing collisions, total train-miles, and total highway VMT.

Pipeline failures Page 44

Measure:	Failures of natural gas transmission pipelines. (CY)
Scope:	This measure is based on reported hazardous natural gas leaks that meet federal reporting criteria as defined in 49 CFR 191.1 and 191.15 for natural gas transmission pipeline incidents.
Source:	RSPA's Natural Gas Transmission Incident Report. Failure reports are filed within 30 days of the occurrence of reportable incidents. Data may change as operators file supplemental reports.
Limitations:	RSPA lacks adequate infrastructure information on pipeline operations and maintenance needed to fully characterize problems when they occur and lacks information on precursor conditions that contribute to incidents. Joint Federal, State and industry teams have been formed to devise a new course to improve information availability.
Statistical Issues:	The number of failures of natural gas transmission pipelines is likely to be underreported. The annual variation in the number of failures from year to year due to chance has a regression standard error of 238 for natural gas pipeline failures based on data from 1993 through 1999.
Verification & Validation:	RSPA reviews/verifies data provided for accuracy and requests supplemental reports where shortcomings are indicated.
Comment:	None.

Hazardous Materials Incidents Page 47

Measure:	Number of serious hazardous materials incidents in transportation. (CY)
Scope:	Serious reported hazardous materials incidents are defined by RSPA to be those that result in a fatality or major injury (for most purposes, an injury resulting in hospitalization) due to a hazardous material, closure of a major transportation artery or facility, or evacuation of six or more persons due to the presence of a hazardous material, or a vehicle accident or derailment resulting in the release of a hazardous material. This measure tracks only transportation-related releases of hazardous materials that are in commerce. Volume of spills is not tracked, as this does not necessarily indicate risk.
Source:	Hazardous Materials carriers report data to RSPA for entry into the Hazardous Materials Information System (HMIS).
Limitations:	Data for all hazardous materials incidents is suspected of being incomplete due to under-reporting for minor incidents. Most reportable serious incidents are in the system, making this a more consistent measure for program management. However, it does not reflect all incidents.
Statistical Issues:	Although the number of incidents is likely to be underreported, such recording error is probably small in comparison to the annual variation due to chance. The annual variation in the number of failures from year to year due to chance has a regression standard error of 40.0 based on data from 1993 through 1999.

Verification & Validation:	RSPA verifies the data by periodic follow-up reviews of data entry by the manager of the Hazardous Materials Information System, and verification audits of the data entry process. RSPA crosswalks HMIS reports against the National Response Center log of accidents. RSPA is improving compliance with reporting requirements by correlating HMIS reports with FRA's Accident Report data and the HMIS telephonic data. RSPA is piloting and plans to incorporate procedures to correlate HMIS reports with FHWA's Safetynet Accident File data.
Comment:	None.

Details on DOT Measures of Mobility

Highway pavement condition Page 53

Measure:	**Percentage of miles on the National Highway System (NHS) that meet pavement performance standards for acceptable ride. (CY)**
Scope:	International Roughness Index (IRI) is compiled annually for every section of the NHS, using data reported from the States.
Source:	Data collected by the State Highway Agencies and reported to FHWA for the Highway Performance Monitoring System (HPMS). They are obtained from calibrated measurement devices that meet industry set standards. Measurement procedures are included in the HPMS Field Manual.
Limitations:	IRI data for the approved NHS exist from 1995 onward. Past data (1993 and 1994) contain some variation as this data was on the proposed, rather than the existing NHS. No NHS IRI data are available prior to 1993. The HPMS requires States to report IRI data every two years using voluntary guidelines. About 7% of the NHS is not reported on.
Statistical Issues:	The major source of error in the percentages is probably the sampling error from selecting the segments of highway tested for smoothness. The annual variation in the percentage due to chance has a regression standard error of approximately 0.5% based on data from 1995-1999.
Verification & Validation:	FHWA validates the data based on consistency reviews.
Comment:	See the Source and Accuracy statement at www.bts.gov/statpol/SAcompendium.html.

Highway bridge condition Page 55

Measure:	**Percentage of bridges on the NHS that are deficient. (CY)**
Scope:	Measure includes the number of deficient (structurally deficient and functionally obsolete) bridges on the NHS functional system divided by the total number of NHS bridges in the inventory, expressed as a percent.
Source:	Bridge information is collected by State DOTs and other bridge owners and provided to FHWA annually for inclusion in the FHWA maintained National Bridge Inventory (NBI).
Limitations:	NBI includes information on all (as of December 31, 2000) 114,506 NHS bridges.

States are required to update the system annually, but many States update quarterly. The system contains 95 data items for each of the bridges, and 20 of these items relate to bridge condition and appraisal. There are specific instructions as to how to assess bridges based on these items, including a grading scale from 0 to 9 with specific definitions and specific criteria to follow.

Statistical Issues: Even with the item specific grading system, differences in the grading between individual inspectors and between inspection days are probably the largest component of variation in the percentages. Based on 1993-1999 data, the estimated regression standard error for year-to-year variation in the percentages due to chance is approximately 0.6%.

Verification & Validation: DOT evaluates accuracy and reliability of the submitted NBI information through data checks and field reviews by both Headquarter and field office personnel. This is done as a part of FHWA's NBI, the National Bridge Inventory System (NBIS), and Highway Bridge Replacement and Rehabilitation Program. Evaluation of the State's compliance with the NBIS most often includes a sample of bridge inspection reports and a comparison of condition data with field visits to the bridge site. In addition, there is an edit update program that identifies potential data errors in the NBIS.

Comment: None.

Runway pavement condition Page 57

Measure:	**Percent of runways in good or fair condition (commercial service, reliever, and selected general aviation airports). (CY)**

Scope: Paved runways at the 3,300+ airports in FAA's National Plan of Integrated Airport Systems (NPIAS) are assessed for pavement condition. The NPIAS airports include all commercial service and reliever airports and those general aviation airports that are significant to national air transportation.

Source: The FAA's Airport Safety Data Program (ASDP) provides extensive data about the facilities that are available at public-use airports. Data are provided approximately annually by FAA inspectors for airports certified under FAR 139. Data for other airports, including most public use general aviation airports, are provided under an FAA contract.

Limitations: FAA contracts for a visual survey of the runways to categorize their condition based on criteria developed by the FAA Office of Airports. "Good" condition means all cracks and joints are sealed; "fair" condition means there is mild surface cracking, unsealed joints, and slab edge spalling; and "poor" condition means there are large open cracks, surface and edge spalling, and vegetation growing through cracks and joints. Since the reports are based on a visual inspection, underlying drainage or strength problems are not reported. However, these problems normally create surface defects that are visible. The more detailed pavement condition index (PCI) inspections require a section-by-section examination of the runway rather than an overall assessment used for this performance measure. FAA has been aggregating the ASDP data from all NPIAS airports only every several years for inclusion in the NPIAS report to Congress. This information exists for 1993, 1997, and 1998.

Statistical Issues: Less than half of the ASDP records were updated during CY 2000. The relatively subjective nature of judging pavement quality means this measure is also subject to random variation due to measurement error.

Verification & Validation: Efforts continue to correlate PCI and ASDP data.

Comment: A contract will be initiated in FY 2001 to coordinate efforts by State agencies to conduct safety inspections at selected general aviation airports.

Bus and rail transit fleet condition Page 59

Measure:
1. **Average condition of motor bus fleet (on a scale of 1 (poor) to 5 (excellent)). (CY)**
2. **Average condition of rail vehicle fleet (on a scale of 1 (poor) to 5 (excellent)). (CY)**

Scope: The measure includes bus, demand response, and rail fleets.

Source: National Transit Database (NTD), with information gathered from transit operators; Transit Economic Requirements Model (TERM), which estimates average vehicle condition using NTD data.

Limitations: Average vehicle condition may not fully reflect the average condition that transit passengers face, since vehicles in worse condition tend to be utilized less. There are also lags in reporting of data to the NTD (thereby requiring preliminary estimates for recent years) and in the effects of federal government capital assistance (since it may take five years from the time that funds are appropriated to the time that new or rehabilitated vehicles are placed in service).

Statistical Issues: Condition is generated from NTD data using an econometric model, which in turn is based on a random national sample of vehicles. Average condition changes very slowly due to the steady replacement of vehicles and the relationships in the estimated model.

Verification & Validation: Each transit agency is required to have an independent auditor and the transit agency's CEO certify that data reported to the NTD are accurate. Data are also compared with fleet data reported in previous years and crosschecked with other related operating/financial data in the report. The econometric model used to translate NTD data into average condition ratings is based on visual inspections of a national sample of bus and rail vehicles. The sample will need to be repeated periodically in the future in order to keep the econometric model current with developments in vehicle conditions.

Comment: None.

Highway congestion – (FY 2001 – FY 2002) Page 61

Measure:
1) **Of total annual urban-area travel, percentage that occurs in congested conditions,**
2) **Of annual urban-area peak period travel time, additional percentage of travel time attributable to congestion, and**
3) **For the individual traveler in urban areas, average annual hours of extra travel time due to delays. (CY)**

Scope: **Scope:** Data for the three measures below stemmed from approximately 400 urban areas. The data reflects the travel conditions of the freeway and principal arterial street networks.

Definitions:

1. Urban area: Developed area with a density of greater than 1,000 persons per square mile.
2. Congested travel: Traveling below the posted speed limit(s).
3. Peak Periods: (Applicable to Travel Time Measure only. Congested Travel and Traveler Delay represent daily travel.) Monday-Friday morning and evening rush hours when slow speeds (below posted speed limits) are more likely to occur. The length of peak periods varies, e.g., large urban areas are typically longer. The Travel Time Measure accounts for the variations.
4. Delay: Extra travel time due to traffic volume and/or incidents.

Source: Data collected and provided by the State Departments of Transportation from existing State or local government databases, including those of Metropolitan Planning Organizations. The Federal Highway Administration's Highway Performance Monitoring System serves as the repository of the data. The Texas Transportation Institute utilizes HPMS data to derive the above measures.

Limitations: We have gathered data up through 1999. We anticipate having 2000 data on/about November 2001. The proportion of congested travel figures used in calculating the measures are computed rather than measured values. The computed values may understate congestion, as delay from incidents is not calculated. Performance evaluation is process-oriented. Transportation programs that help combat highway congestion possess outcome-oriented, objective methods within the specific program areas; however, the causal relationship between the programs and overall highway congestion is inconclusive.

Statistical Issues: Methodology used to calculate performance measures has been developed by the Texas Transportation Institute and used in their annual Mobility Study. A detailed description of TTI's methodology is best described on their website at http://mobility.tamu.edu/.

Verification & Validation: State-reported HPMS data are reviewed by FHWA for completeness, consistency, and adherence to reporting guidelines. When necessary, and with close State cooperation, data may be adjusted to improve completeness, consistency, and uniformity.

Comment: In the FY 2000 Performance Plan, we used hours of delay per 1,000 vehicle-miles traveled (VMT) to measure this goal. This metric attempted to provide a system-wide measure of congestion. However, it represented only one dimension of congestion – delay – and did not effectively reflect the actual performance of the highway system in places where congestion regularly happens, i.e., the measure showed delay decreasing nationwide when in fact congestion was worsening in urban areas. Moreover, the measure was difficult to interpret by the general public. Based on discussions with our partners and customers, we replaced this indicator with three new measures: Congested Travel, Travel Time, and Traveler Delay. Together, these new indicators will reflect changing travel conditions more comprehensively by focusing on three different aspects of inefficient road performance in a broad collection of urban areas across the nation where congestion regularly occurs. The data supporting the three new measures stem from the Highway Performance Monitoring System (HPMS). The availability of the data is approximately 9 months from the base year, e.g., 2001 actual numbers will not be available from HPMS until September/October 2002. To accurately and reliably manage the transportation system, real-time (minute-by-minute) measurement of system speeds is needed and can only be achieved with automated instrumentation. As the Intelligent Transportation System network is put in place, reliability will become a barometer of this strategic goal. Ten cities have been identified with sufficient instrumentation to permit the development of a reliability measure. If budgetary allowances permit, we will collect baseline data from these and other cities. This will be the first step in migrating from HPMS data to real-time, ITS-based data.

Highway congestion – (FY 2000) Page 61

Measure:	**Hours of delay per 1,000 vehicle-miles traveled on Federal-aid highways. (CY)**
Scope:	Delay represents the difference between estimated actual travel speed and free flow travel speed that could be attained if there were no other traffic. Delay includes week-day and weekend travel combined. On other than freeways, delay also includes the delay due to traffic control devices – traffic lights and stop signs. Delay in hours per 1,000 VMT is calculated on an individual section basis using the Highway Performance Monitoring System (HPMS) data and is summed to represent an annual average delay for all Federal-aid highways.
Source:	Data collected and provided by the State Departments of Transportation from existing State or local government databases, including those of Metropolitan Planning Organizations.
Limitations:	The delay calculation is modeled, based on traffic volume and capacity values such as number of through lanes, access control, and at-grade intersections. Minor lengths of Federal-aid highways on the lowest functional systems are not included in this analysis. Although nearly all States' data are included in the trend estimates, they do not include all States for all years. The estimate understates delay since it does not include delay due to incidents – crashes, etc. The estimate includes delay caused by traffic control devices since they reduce operating speed below what would otherwise be the free flow speed. Data exist for 1996 and later years.
Statistical Issues:	The primary source of uncertainty in estimating delay rates is the denominator. The numerator estimate of total delay, however, is also affected by modeling errors in the delay calculation. The annual variation in the delay rate attributable to random chance has a regression standard error of 0.032 based on data from 1996 through 1999.
Verification & Validation:	State-reported HPMS data are reviewed by FHWA for completeness, consistency, and adherence to reporting guidelines. Where necessary, and with close State cooperation, data may be adjusted to improve completeness, consistency, and uniformity.
Comment:	This measure is being replaced by new measures of congested travel, increased travel time, and traveler delay within urban areas.

Intelligent Transportation Systems Integration Page 64

Measure:	**Number of metropolitan areas where integrated ITS infrastructure is deployed. (FY)**
Scope:	The level of integrated deployment in 75 of the nation's largest metropolitan areas has been established using a set of indicators that consider two factors: (1) How much ITS infrastructure is in place at each metropolitan area and (2) How much integration is going on at each area. The process for determining the level of "component" deployment in a metropolitan area employs a set of indicators that measure the magnitude of deployment for selected ITS components. These are typically expressed as a ratio of actual deployment divided by the total possible, for example the number of freeway miles under electronic surveillance divided by the total freeway mileage. Components are considered deployed once the level of deployment attains a specified threshold level based on the indicators. Integration is defined as the sharing of data between agencies associated with the different jurisdictions responsible for ITS infrastructure. Typically there are three: State DOTs responsible for management of freeways and incident management programs; city governments, which manage most of the traffic signal systems;

and public transit authorities, which manage most bus and rail services. The level of integration is determined by the extent that these three major transportation organizations employ technology to share and use transportation data to increase system capacity. Two examples of integration are: 1) a city traffic signal system receiving data from the state freeway management center about the queues at freeway ramp meters and then adjusting the signal timings on the arterial streets or 2) a transit agency providing the state freeway management center with the real-time location of the buses so that freeway speeds can be determined. Metropolitan areas are rated as low, medium, or high separately for deployment and integration and then assigned an overall combined rating. An overall score of medium or high meets the goal for a metropolitan area.

Source: Metropolitan ITS Deployment Tracking Database developed by the Oak Ridge National Laboratory for the ITS Joint Program Office. Data are collected by means of surveys from designated metropolitan areas.

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

Statistical Issues: These data come from sample surveys that, like all sample surveys, contain sampling and nonsampling errors.

Verification & Validation: The DOT Joint Program Office reviews deployment tracking indicators and methodology. Results are distributed to DOT headquarters and field staff as well as to state and local survey responders for confirmation of accuracy and completeness before the final reports are issued. Independent experts in statistics and transportation review procedures for survey construction and data collection prior to each survey iteration. A steering committee of Federal, state, and local transportation officials review and approve changes to methodology and indicators prior to implementation.

Comment: The FY 1997 baseline is 36 areas.

Airport capacity and en route efficiency improvements Page 66

Measure:	**Cumulative increase in throughput during peak periods at certain major airports. (FY)**

Scope: This measure focuses on the arrival rates during peak traffic periods comparing pre CTAS rates to post CTAS rates.

Source: Radar system (HOST and ARTS) data is collected and aircraft flight tracks are obtained from those systems and analyzed to determine arrival and departure times.

Limitations: The radar systems produce very large data files requiring significant effort to extract relevant data for analysis. The extracted data sets need to be of sufficient size to produce statistically significant results.

Statistical Issues: Conditions (weather, runways in use, aircraft mix) vary, affecting rates. Data must be normalized and data sets must be of sufficient size to produce valid results.

Verification & Validation:	Methodologies and detailed results are available for review in semi-annual FFP1 Metrics Updates (December and June). Results are coordinated with FAA and User stakeholders.
Comment:	None.

Airport capacity and en route efficiency improvements Page 66

Measure:	**Cumulative increase in direct routings for en route flight phase. (FY)**
Scope:	This measure focuses on the number of direct routings provided by en route controllers comparing pre and post URET installation.
Source:	URET provides data on routing amendments, which is then analyzed to determine the number of direct amendments.
Limitations:	The radar systems produce very large data files requiring significant effort to extract relevant data for analysis. The extracted data sets need to be of sufficient size to produce statistically significant results.
Statistical Issues:	Extreme weather conditions, particularly thunderstorms, will significantly affect routing amendments; therefore, data is sampled for days when weather is not a factor.
Verification & Validation:	Methodologies and detailed results are available for review in semi-annual FFP1 Metrics Updates (December and June). Results are coordinated with FAA and User stakeholders.
Comment:	None.

Flight route flexibility Page 66

Measure:	**Percentage of flights that aircraft are able to fly off ATC-preferred routes. (Discontinued after FY 2000) (FY)**
Scope:	Published air traffic (ATC) preferred routes restrict many of the more heavily traveled routes between major metropolitan areas in the National Airspace System. The removal of ATC preferred routes will positively impact the measure.
Source:	FAA Enhanced Traffic Management System.
Limitations:	The action of not assigning or eliminating preferred routes does not automatically make a contribution to the goal of aviation efficiency. It does provide flexibility to the industry and the potential for improved efficiency in certain situations.
Statistical Issues:	There is no significant error in the counts of ATC preferred routes. However, random changes in the number of ATC preferred routes, as well as changes in the number and distribution of airline flights, results in random variation in the measure from year to year.
Verification & Validation:	Air Traffic Service analyzes data collected by Volpe National Transportation Systems Center for air traffic facilities.
Comment:	None.

Impediments to port commerce Page 68

Measure:	Percentage of ports reporting landside and waterside impediments to the flow of commerce. (FY)
Scope:	81 U.S. deep and shallow draft ports.
Source:	Informal telephone surveys of some port officials.
Limitations:	The informal surveys did not encompass all of the intended ports within the scope of this measure. These surveys were not scientifically rigorous and the questions asked varied from one region of the country to another.
Statistical Issues:	(See Verification and Validation section.)
Verification & Validation:	Impediments data was incomplete and inconsistent. After reexamining the available data and the methods for obtaining it, MARAD has concluded that these data do not provide any valid indication as to whether the goal was met or not. MARAD was not successful in clearing up inconsistencies or filling in data gaps.
Comment:	MARAD has also reached the conclusion that MARAD programs do not have a measurable impact in reducing impediments at U.S. ports. MARAD efforts in this area are limited in scope to facilitating dialogue between stakeholders in the Marine Transportation System or technology demonstrations at one or two ports. Therefore, this measure will no longer be used.

Aviation delay Page 69

Measure:	1. Aviation delays per 100,000 activities. (FY)
Scope:	A FAA reported delay occurs when an aircraft is delayed fifteen minutes or more because of constraints that prevent the aircraft from making a scheduled landing; or in a delay of more than 15 minutes after pilots request to depart the gate. Delays are counted in five categories: FAA equipment, volume, weather, runway-related, and other. Delays due to airline equipment are not considered. "Activities" are total facility activities, as defined in Aviation System Indicators 1997 Annual Report. Total facility activities are the sum of en route and terminal facility activities.
Source:	FAA air traffic facilities report the data to headquarters, which incorporates the data into the Air Traffic Operations Management System.
Limitations:	By collecting information on delays of fifteen minutes or more, FAA does not capture the aggregate amount of system delay, but only the most significant delays.
Statistical Issues:	There is no significant error in either the delay counts (numerator) or the flight operations data (denominator) for this rate. However, random variation in aviation delays results in a significant variation in the delay rate from year to year. The regression standard error in the delay rate, based on 1993-1999 data, is approximately 22.0.
Verification & Validation:	Data is analyzed and checked by an Air Traffic Service headquarters office on a daily basis to ensure accuracy of the information reported.
Comment:	Total delays in all five categories are what the traveling public experience.

All Weather Access to Airports – (FY 2001 – FY 2002) Page 72

Measure:	**Number of runways that are accessible in low visibility conditions. (FY)**
Scope:	This performance measure counts the total number of airport runways with published ground-based and/or satellite-based landing systems. The intent of this measure is to reflect increased accessibility using satellite-based technology for vertically-guided approaches.
Source:	Internal FAA Aviation Systems Standards tracking system.
Limitations:	Increasing the number of runways with satellite-based landing systems as well as augmenting existing satellite-based landing systems with vertical altitude guidance will improve access to airports and increase schedule reliability. Both improved access and increased reliability are considered benefits to the aviation industry and the individual air traveler. However, individual use of landing systems is not tracked by current FAA information systems. In addition, aircraft must be appropriately equipped to use the new technology. The FAA does not track these equipment additions.
Statistical Issues:	There is no significant error in the counts of published landing systems. However, like the above measure, random changes in the number of published approaches result in random variation in the count from year to year.
Verification & Validation:	The number of airport runways with a satellite-based landing system is computed monthly by Aviation Systems Standards.
Comment:	None.

All Weather Access to Airports – (FY 2000) Page 72

Measure:	**Total number of published GPS airport approaches. (FY)**
Scope:	This performance measure counts the total number of published satellite-based landing approaches.
Source:	Internal FAA Aviation Systems Standards tracking system.
Limitations:	This is an output measure rather than an outcome measure. Individual use of GPS approach procedures is not tracked by current information systems. Although it may be impossible to measure the exact benefits to users, increased schedule reliability for commuters and air taxis, as well as improved access for general aviation will result from increasing the number of published approaches.
Statistical Issues:	There is no significant error in the counts of GPS landing approaches. However, random changes in the number of approaches caused by external factors result in random variation in the count from year to year.
Verification & Validation:	Productivity numbers are compared and validated monthly by FAA (Aviation Standards National Field Office and National Flight Data Center).
Comment:	None.

St. Lawrence Seaway lock availability Page 74

Measure:	Percentage of days in the shipping season that the two U.S. Seaway locks are available. (CY)

Scope: The availability and reliability of the two U.S. Seaway locks in Massena, New York, are critical to continuous commercial shipping during the navigation season (late March to late December). System downtime due to any condition (weather, vessel incidents, malfunctioning equipment) causes delays to shipping, affecting international trade to and from the Great Lakes region of North America. Downtime is measured in minutes/hours of delay for weather (visibility, fog, snow, ice); vessel incidents (human error, electrical and/or mechanical failure); water level and rate of flow regulation; and lock equipment malfunction.

Source: SLSDC gathers the data from Lock Operations Records.

Limitations: As the agency responsible for the operation and maintenance of the U.S. portion of the St. Lawrence Seaway, SLSDC's lock operations unit gathers primary data for all vessel transits through the two U.S. locks, including any downtime in operations. Data is collected on site, at the U.S. locks, as vessels are transiting or as operations are suspended. This information measuring the System's reliability is compiled and delivered to SLSDC senior staff each month. In addition, SLSDC compiles annual System availability data for comparison purposes. Since SLSDC gathers data directly from observation, there are no limitations.

Statistical Issues: None.

Verification & Validation: SLSDC verifies and validates the accuracy of the data through review of 24-hour vessel traffic control computer records, radio communication between the two Seaway entities and vessel operators; and video and audiotapes of vessel incidents.

Comment: SLSDC influences the measure primarily through capital planning, and consistent facilities maintenance and investment.

Domestic icebreaking Page 76

Measure:	Days critical waterways are closed due to ice. (FY)

Scope: Seven waterways are designated critical to icebreaking on the Great Lakes based on historical ice conditions, volume of traffic, and potential for flooding due to ice dams on rivers. The Coast Guard measure is the number of days critical waterways are closed for more than 24 hours due to ice.

Source: Data comes from U.S. Coast Guard and U.S. Army Corps of Engineers observations. Waterways closure data is reported to the Ninth Coast Guard District by operating units via operational situation reports.

Limitations: The data set associated with this measure is relatively small and simple; hence it is estimated to be fairly accurate. However, it is possible that small errors exist. This measure captures only Great Lakes winter navigation, and not all domestic icebreaking. The observation of closures in critical waterways is a surrogate for mobility over the whole Great Lakes waterway system.

Statistical Issues:	This particular performance measure is highly sensitive to the severity of winter weather, which will dramatically affect the ability to predict the number of days the waterways are closed due to ice. The Coast Guard expects a lower rate of waterways closures due to ice during mild winters and a corresponding higher rate of waterways closures during severe winters. The Coast Guard uses a standard severity index (based on average temperatures) to measure the severity of winter weather (–6.2 or milder defines average severity; less than –6.2 defines severe, e.g., –6.5). The term "waterway closure" is also subject to differences in definition by districts or sub-units reporting the data.
Verification & Validation:	Coast Guard district program managers review and validate data from situation reports and provide Coast Guard headquarters with an End of Season report.
Comment:	Great Lakes data reflect initial measurement methodology. Further refinements are being explored that will make this measure a more comprehensive gauge of winter navigation.

Maritime navigation Page 77

Measure:	**FY 2001 – FY 2002: Total number of commercial vessel collisions, allisions, and groundings. (FY)** **FY 2000: Total number of navigational accidents – maritime collisions, allisions, and groundings – for freight and tank ships over 500 gross tons. (FY)**
Scope:	The old measure included collisions, allisions, and groundings of commercial ships over 500 gross tons when located in U.S. waters. The new measure includes all commercial ships regardless of tonnage. Intentional groundings are excluded.
Source:	Coast Guard Marine Safety Information System (MSIS). Sources of reports are most often vessel masters, operators, owners, insurance companies, legal representatives, and other mariners. Collisions, Allisions, and Groundings are reported to the Coast Guard as required by federal regulations.
Limitations:	The investigation, retrieval, analysis and reporting processes result in under-reporting for the most recent year, with the most significant effects over the most recent 5 months. Estimates are often used to compensate for this known data-lag. It is probable that some collisions, allisions and groundings are not reported to the Coast Guard. This number is unknown. Serious events such as major collisions and hard groundings are more likely to be reported than minor events such as a temporary grounding where a vessel could remove itself without assistance. Duplicate event entries are sometimes entered into MSIS, and some events are mistakenly omitted or coded incorrectly. Verification procedures strive to correct these errors, but it is probable that a small number are not corrected. Because this count of incidents is not normalized to exposure, it does not provide a sensitive indicator of changes in risk.
Statistical Issues:	The major sources of uncertainty in these measures are the estimation error (as a result of the data-lag), the response error (as a result of parties failing to report casualties to the Coast Guard), and recording error (based on differences in the training and judgment of Coast Guard investigators in recording the accident). The regression standard error for year-to-year chance variation in the number of collisions, allisions and groundings under the new measure is approximately 142, based on data from 1995 through 1999.
Verification & Validation:	Verification and validation occurs at several levels. Edit checks within MSIS software can detect some incorrect or missing data and force review and correction before data entry is completed. Selection lists for certain data fields also reduce the opportunity for data entry error. All investigations go through one level of review at the field unit for

accuracy. Investigations of serious marine casualties are also usually reviewed at district and headquarters offices. The headquarters Data Administration staff conducts periodic quality control checks to identify entry errors such as missing data or miscoding, and corrects any errors identified. Each investigation involving a vessel accident is reviewed before it is included in the measure. Errors identified are referred to either the Data Administration staff or the Investigations and Analysis staff for correction.

Comment: During FY 2001, the Marine Safety Information System (MSIS) will be replaced by the Marine Information System for Safety and Law Enforcement (MISLE). While the new system will be a significant improvement, it is expected to cause serious difficulties in making performance comparisons. One factor is that many business processes were redesigned in conjunction with system development. Another factor is that data quality under MISLE is expected to be superior to that of MSIS. While this represents improvement, it may cause near-term problems in making meaningful comparisons of data between the two systems.

Amtrak ridership Page 79

Measure:	**Millions of passengers on Amtrak's intercity routes. (FY)**
Scope:	The measure includes all revenue paying passengers on intercity routes.
Source:	Amtrak Annual Report and Amtrak's Monthly Train Earnings Report.
Limitations:	Data collection relies on accuracy of Amtrak report. Ridership is an outcome indicator that reflects a variety of factors, not insignificantly the capital investment of the Federal Government. Operational decisions of Amtrak and the availability and cost of alternative modes of transportation also influence ridership.
Statistical Issues:	Chance variation from year to year, as estimated by the regression standard error from 1993-1999, is 0.86. This calculation assumes stable operations over the five-year period; since new runs and lines are added and removed fairly often, the standard error is only a rough approximation.
Verification & Validation:	Amtrak conducts monthly verification and validation of data.
Comment:	A 3.6 million increase in ridership is projected from 1998-2001 as a result of the initiation of the Northeast Corridor high-speed rail service.

Transportation accessibility Page 81

Measure:	**1. Percentage of bus fleets that are Americans with Disabilities Act (ADA) compliant. (CY)** **2. Percentage of key rail stations that are Americans with Disabilities Act (ADA) compliant. (CY)**
Scope:	Accessibility for bus fleet means that vehicles are lift or wheel chair ramp equipped. Accessibility for key rail facilities is determined by standards for ADA compliance.
Source:	Data on bus accessibility is collected in the National Transit Database (NTD), with information gathered from transit operators. Data on rail accessibility is reported to FTA by the transit authorities.

Limitations:	Measure does not capture ADA compliance (or transportation accessibility) for modes other than transit.
Statistical Issues:	None.
Verification & Validation:	For bus accessibility, an independent auditor and the transit agency's CEO certify that data reported to the NTD are accurate. Data are also compared with fleet data reported in previous years, and crosschecked with other related operating/financial data in the report. Fleet inventory is reviewed as a part of FTA's Triennial Review, and a visual inspection is made at that time. FTA's Office of Civil Rights conducts oversight reviews in order to verify the information on key rail station accessibility which has been self-reported by the transit authorities.
Comment:	FTA will primarily influence the goal through Federal transit infrastructure investment, which speeds the rate at which transit operators can transition to ADA-compliant facilities and equipment.

Essential air service Page 83

Measure:	**1. Percent of subsidized communities with at least 2 round trips/day, 6 days/week (12 round trips/week). (This measure will be discontinued after FY 2001.) (FY)** **2. Percent of subsidized communities with at least 3 round trips/day, 6 days/week (18 round trips/week). (FY)**
Scope:	The measure shows the number of weekly round trips at subsidized EAS communities in the continental U.S. EAS communities are those that were on the certificated airline map in 1978.
Source:	Air carrier filings, airport managers and community officials.
Limitations:	Service frequency is closely associated with program funding levels and the number of EAS communities that require subsidy; the number of communities may change. Service frequency may also be affected by conditions such as an air carrier going out of business, airline strikes, or carrier shutdowns. DOT's goal assumes a fairly constant level of communities in the base (76 in 1998). This measure will not show instances in which the Department is successfully able to effect a carrier transition to commercially viable service without a subsidy. Data has only been gathered for 1996 and later years.
Statistical Issues:	There is no significant error present in the subject data.
Verification & Validation:	Continued contact with airport and civic parties, carrier officials, and Congressional staffs.
Comment:	Consideration of alternate strategies or performance measures may be prompted by developments such as budget constraints and the makeup of the commuter aircraft fleet.

Appalachian highway system Page 85

Measure:	Miles of the Appalachian Development Highway System (ADHS) completed. (FY)
Scope:	Measure includes actual miles completed on the 3,025 mile ADHS, within 13 member States.
Source:	States submit annual status updates on ADHS miles completed within their State each fiscal year to the Appalachian Regional Commission (ARC). The ARC compiles the data.
Limitations:	This is an output measure.
Statistical Issues:	None.
Verification & Validation:	Completed by ARC.
Comment:	ARC estimates that the TEA-21 funding level will result in completion of approximately 37 additional miles each FY 1999 through 2003.

Access to jobs Page 86

Measure:	Number of employment sites that are made accessible by Job Access and Reverse Commute transportation services. (FY)
Scope:	This measure assesses one part of the Job Access and Reverse Commute program – the number of employment sites made accessible that were not previously accessible. An employment site is considered accessible if located within 1/4 mile of services provided by the grantee. Employment sites must offer jobs that require a high school diploma or less. Services that make an employment site accessible may include, but are not limited to, carpools, vanpools, and demand-responsive services as well as traditional bus and rail public transit. The measure cannot account for those Job Access and Reverse Commute activities that encourage riders to use already existing sources of public transit. See comments.
Source:	Data are provided to FTA by grantees of the Job Access and Reverse Commute program in their quarterly progress reports.
Limitations:	The goal and measurement is the primary evaluation measure aimed at capturing results of the Job Access and Reverse Commute program. Three elements are key to job access – the residence of the employee, the commute, and the job location. This measure includes the "goal" of the commute and the job, but it does not include the "starting line" of the commute, the rider's home. Although jobs may be made more accessible to transportation services, these services may not provide access to potential workers' communities. This measure also cannot account for improved accessibility due to lower fares or shorter commute times – it addresses only the gap in service delivery. FTA requires a greater level of precision from larger, urban grantees than rural grantees that may have fewer resources at their disposal.
Statistical Issues:	There are major problems in obtaining accurate estimates of the number of entry-level jobs within a quarter-mile of grantee services. Surveys are costly and prone to systematic biases. The uncertainty in this estimate is both large and difficult to quantify.

Verification & Validation:	FTA will use an oversight contractor to verify reported information on a sample basis.
Comment:	None.

Details on DOT Measures of Economic Growth

International air service Page 91

Measure:	Number of passengers (in millions) in international markets with open skies aviation agreements. (FY)
Scope:	These data are collected by DOT for all flight segments to/from a U.S. point. The data for this measure include all passengers on U.S. and foreign carrier flights to and from 47 "open-skies" countries and Canada. This indicator reflects (barring significant, unrelated macroeconomic and political influences) the extent to which the competitive environment promoted by DOT increases travel opportunities.
Source:	U.S. air carriers file domestic and foreign data in the T-100 system. Foreign carrier data are from the T-100F database. Foreign air carriers file data for all nonstop flight segments involving a U.S. point.
Limitations:	These data are considered a reliable measure of airline passenger traffic between the U.S. and foreign nations. The annual increase in air traffic, however, is affected by economic strength as well as market liberalization in bilateral aviation trade agreements. Furthermore, only part of the growth rate in open skies markets can be attributed to new traffic – some of the increase may reflect diversion of traffic from less competitive routes with higher taxes and/or inferior service options. The goal of 3% annual growth reflects aviation analysts' judgment of the net impact of these agreements above the estimated growth expected in the industry. For these reasons, this measure must be considered more of a forecast than a "target." A program evaluation assessing the effectiveness of this program was completed in 2000 and is shown in Appendix III.
Statistical Issues:	Like other counts of aviation-related activities, there are no significant sources of systematic error in these data that have been quantified. However, random variation in the number and distribution of airline passengers, as well as the changes in the number of "open-skies" agreements, results in variation in the measure over time. The regression standard error in this variation for 1994 through 1999 is 1.25.
Verification & Validation:	Airlines are required to certify that these data are accurate. Also, these data are a 100% enumeration of traffic and capacity and can be verified for reasonableness against other databases, such as flight schedules.
Comment:	U.S. policy has favored the linking of networks. Networks allow improved service and marketing in many thousands of small city-pair markets. All of this traffic flows over flights captured by the T-100 and T-100F reports for international flights.

Commercial shipbuilding Page 92

Measure:	Gross tonnage (in thousands) of commercial vessels on order or under construction in U.S. shipyards. (CY)
Scope:	Includes all commercial self-propelled vessels 100 GT or larger that are on order or under construction (i.e., the orderbook) in the United States, as of December 31. Vessels such as drill rigs and inland barges are not included in these figures.
Source:	In addition to MARAD's independent compilation of data, information is drawn from commercial suppliers of worldwide vessel characteristics data. These include Lloyd's Register of Shipping (marketed through Lloyd's Maritime Information Services), Clarkson's Research Service, and Fairplay.
Limitations:	No single commercial supplier of vessel data has complete information on shipyard orders and construction activity in the U.S. None of the major data suppliers collect information on non-self-propelled vessels. In 1998, MARAD began direct semi-annual shipyard surveys. However, as the overall response rate was about 40 percent and did not produce any significant increase in either the quantity or quality of the data, MARAD is seeking alternative methods to obtain this data. The commercial sources used are the best available, and consequently the data reported represents an amalgam of their collection efforts.
Statistical Issues:	One anomaly with the data is a gap in the statistics for vessels between 100 and 1,000 GT. Only Lloyd's data provides data in this category, but their data does not cover the full spectrum of vessels. Orderbook data on December 31 of each year represents information available at that time and may not reflect complete information.
Verification & Validation:	MARAD compares information obtained from the different data sources to verify its accuracy.
Comment:	It has become evident that the available data does not adequately measure the value or complexity of the commercial shipbuilding program; therefore, MARAD plans to develop a new goal and measure.

Transportation and education Page 94

Measure:	Number of students graduating with transportation-related advanced degrees from universities receiving DOT funding. (SY)
Scope:	University Transportation Center (UTC) data includes recipients of Masters and Ph.D. degrees in programs considered to be transportation-related.
Source:	UTC data to be derived from university records provided to RSPA as part of the UTCs' grant applications.
Limitations:	While baseline data has been obtained for the UTC program, no data currently exists for other education programs that can result in transportation-related graduate degrees.
Statistical Issues:	There is a possibility of undercounting, due to difficulty in specifying degree programs that are transportation-related. Additionally, some universities may not fully comply.
Verification & Validation:	Comparison with data reported for all degree programs by host universities and specific reports on each recipient of an advanced degree.
Comment:	None.

Transportation and education Page 94

Measure:	**Cumulative number of students (in thousands) reached through the Garrett A. Morgan Technology and Transportation Futures Program. (This measure will be discontinued after 2001.) (SY)**
Scope:	Includes students of all ages reached through specific activities such as internships, job shadowing, career days, video conferences, classroom visits, and teacher externship visits that inform them of the opportunities available in the transportation field and ensure that they have the skills and knowledge required for transportation jobs.
Source:	RSPA-maintained database to aggregate responses from program organizers.
Limitations:	The inherent nature of this measure does not allow us to gauge the quality of contacts made with students "reached" or provide a means to track outcomes in terms of students entering the transportation field as a direct result of the activities sponsored through the Garrett A. Morgan Technology and Transportation Futures Program.
Statistical Issues:	Some variability is inevitable in classroom attendance counts, videoconferences, and other measures of exposure. But this uncertainty should be small.
Verification & Validation:	RSPA works to ensure that the quantitative data being reported is complete and accurately reflects the associated student activity before it is entered into RSPA's database.
Comment:	None.

Disadvantaged & women-owned business contracting Page 96

Measure:	**1. Percent share of the total dollar value of DOT direct contracts that are awarded to women-owned businesses. (FY)** **2. Percent share of the total dollar value of DOT direct contracts that are awarded to small disadvantaged businesses. (FY)**
Scope:	Includes contracts awarded by DOT contracting activities (except FAA) through direct procurement (i.e., not including contracts issued by grantees).
Source:	All DOT contracting activities except the FAA report data to the Contract Information System (CIS). This data is reported to the Federal Procurement Data Center (FPDC) by the CIS.
Limitations:	Contracting data is reported by procurement offices directly into the CIS. Data can still be entered into CIS and reported to FPDC after performance measurement results are submitted so small variations in prior year performance data may result.
Statistical Issues:	There is no significant error present in the subject data. However, random variation in the number of DOT contracts as well as the number of women-owned and small-disadvantaged businesses each year results in some random variation in these measures from year to year. The regression standard error for 1993-1999 is 0.65% for women-owned small businesses and 2.74% for small-disadvantaged businesses.
Verification & Validation:	DOT conducts comparison checks of CIS data with FPDC data to reconcile discrepancies. On occasion, GSA audits the accuracy of DOT contracting data.
Comment:	None.

Details on DOT Measures of Human & Natural Environment

Transit service Page 101

Measure:	Percent of urban population living within a quarter mile of a transit stop with service frequency of 15 minutes or less (non-rush hour). (CY)
Scope:	A transit stop is defined as a bus stop, but does not include rail stations unless associated with a bus stop.
Source:	FTA compiled information from bus schedules across the country. Population statistics come from the Census Bureau. Information from both of these sources was formatted using the Geographic Information System.
Limitations:	Transit stops do not include rail stations (such as light rail or subway). However, rail stations are almost always served by bus lines, so most persons who live near a rail station also live near a bus line.
Statistical Issues:	The extrapolation of population statistics from the Census Bureau at a level fine enough to support inferences within a geographic radius of a quarter mile is difficult. The measurement aspects of this estimate require careful examination.
Verification & Validation:	Under development.
Comment:	The Federal Transit Administration is working to develop the Transit Performance Monitoring System. Fully instituted, the TPMS will allow the Department to measure not only how many people live close to public transit, but also how many people use public transit for basic mobility.

Transit ridership Page 103

Measure:	Billion transit passenger-miles traveled. (CY)
Scope:	Includes revenue-passenger miles on publicly sponsored bus, transit rail, commuter rail, ferry, and vanpools in urbanized areas.
Source:	National Transit Database (NTD), with information gathered from transit operators.
Limitations:	Data is self-reported by transit agencies using an FTA-approved sampling methodology. Although most data is reported in the National Transit Database each year, sample cycles may be annual, every three years, or every five years depending on the size of the urban area and the number of vehicles operated. Ridership is an outcome indicator that reflects a variety of factors, including the capital investment of the Federal Government. Ridership is also influenced by operational decisions of transit authorities, and the availability and cost of alternative modes of transportation.
Statistical Issues:	The sources of uncertainty include sampling error, annual chance variation, and auditing issues. The regression standard error from 1993-1999 indicates that the magnitude of the combination of the first two sources of error is approximately 0.54.

Verification & Validation:	Each transit agency is required to have an independent auditor and the transit agency's CEO certify that data reported to the NTD are accurate. FTA also compares data to key indicators such as vehicle revenue miles, number of buses in service during peak periods, etc.
Comment:	None.

Wetland protection and recovery Page 105

Measure:	**On a program-wide basis, acres of wetlands replaced for every acre affected by Federal-aid highway projects (where impacts are unavoidable). (FY)**
Scope:	Measure includes wetlands associated with all Federal-aid highway projects each fiscal year. To be included, wetland replacement (or investment in a wetland bank) must have begun.
Source:	State DOTs input Federal-aid related wetland degradation and replacement data into either locally developed wetland mitigation databases or the FHWA Wetlands Management Database. FHWA compiles the final data.
Limitations:	Data exists only on Federal-aid related wetland replacement. Also, uniformity of the data is not guaranteed, as it is subject to interpretation by the reporting State DOTs. In particular, there is no uniform understanding of what should be reported as mitigation acreage. The FHWA has provided guidance on mitigation activities to report and will soon issue the Wetlands Management Database that should reduce the current variations in data received from the States. Data on wetland replacement is available for the past five fiscal years (FY 1996 - FY 2000).
Statistical Issues:	The non-uniformity of the data is problematic. Definitional ambiguity also makes formal statements of statistical uncertainty problematic.
Verification & Validation:	Data are gathered from established mitigation amounts required by section 404 permits that states must acquire for their projects. In addition, FHWA provides guidance to help states consistently report mitigation data. This process will be further improved through a standard mitigation database under development for the states. At present, there is no external audit of state data.
Comment:	All Federal agencies (including DOT, FHWA, and other modes) must comply with the National Environmental Policy Act (NEPA) and the Clean Water Act (CWA) (specifically section 404(b)(1) of the CWA) regarding disruption of wetlands. These laws require agencies to identify project alternatives that would avoid or minimize impacts to wetlands as a first consideration. These alternatives are subjected to analysis under both NEPA and the CWA. Under the law, these alternatives must be chosen unless the project sponsors clearly demonstrate that they are not viable because they do not meet the project purpose and need or will lead to other more significant environmental impacts. If, in compliance with the law, wetland disruption is unavoidable, FHWA then works to achieve this goal of wetland replacement.

Fisheries protection Page 107

Measure:	**Percent change in number of species that are designated as overfished (includes only the areas where Coast Guard has enforcement responsibility in fisheries management plans). (FY)**
Scope:	This measure includes species covered under formal fisheries management plans that contain Coast Guard enforcement responsibilities, and that are formally assessed by the National Marine Fisheries Service and designated as over-fished.
Source:	National Marine Fisheries Service. Data is provided through the annual NMFS report to Congress "Status of Fisheries of the United States." This report is mandated by the Sustainable Fisheries Act of 1996.
Limitations:	Historical data are limited – 1997 - 1999 only. Not all species required to be assessed have been formally assessed as over-fished or not over-fished. Hence, the number of reported over-fished species will likely rise over the next 2 years as reporting becomes more complete. Assessments of over-fishing are based on biological sampling methods and estimations that are subject to error.
Statistical Issues:	As noted in the Limitations section, this measure is likely to rise as NMFS continues its search for currently unknown fish stocks. In addition, NMFS revisions to data definitions of over-fished stocks, including their reclassification of over-fished into categories of over-fished and over-fishing has affected the calculation of this measure.
Verification & Validation:	Data are provided by NMFS. DOT does not independently verify or validate the data.
Comment:	This measurement is aligned with the Sustainable Fisheries Act and the National Marine Fisheries Service (NMFS) related goal. The Coast Guard also measures the rate of compliance with federal regulations as a critical component of enforcing fisheries management plans designed to improve species health, and prevent over-fishing.

DOT facility cleanup Page 109

Measure:	**Percentage of DOT facilities categorized as No Further Remedial Action Planned (NFRAP) under the Superfund Amendments and Reauthorization Act (SARA). (FY)**
Scope:	EPA maintains a Federal Facility Hazardous Waste docket (docket), which contains information regarding Federal facilities that manage hazardous wastes or from which hazardous substances have been or may be released. DOT facilities listed on the docket are discussed in the Annual SARA report sent to Congress each year. EPA regional offices make the determination to change facility status to NFRAPs on the docket.
Source:	Annual SARA Report to Congress.
Limitations:	The number of DOT facilities listed on the docket has fluctuated over the years. Several of the DOT facilities listed have more than one site requiring cleanup and a facility is not removed from the list until all of the sites have no further remedial action planned. Some facilities are listed erroneously and it may take several years to remove them from the docket. NFRAP decisions may be reversed by EPA if future information reveals that additional remedial actions are warranted.

Statistical Issues:	There is no significant error present in the subject data.
Verification & Validation:	The data used in measuring this performance is based on restoration activities at field locations for USCG, FAA, FHWA, and FRA. These field sites report their activities to their respective headquarters management who verifies the data by periodic follow-up reviews. The data is then reported yearly to the Office of the Secretary, who cross-checks it against data received from EPA and the States.
Comment:	The primary criterion for NFRAP is a determination that the facility does not pose a significant threat to the public health or environment. NFRAP decisions may be reversed if future information reveals that additional remedial actions are warranted. The Operating Administrations' activities are controlled, to a degree, by interaction and decisions made by EPA Regional personnel.

Environmental justice Page 111

Measure:	**1. FY 2002: Percent of environmental justice cases that remain unresolved after one year. (FY)** **2. FY 1999 – FY 2001: Number of environmental justice cases that remain unresolved after one year. (FY)**
Scope:	Data will cover complaints filed with DOT under Title VI of the Civil Rights Act of 1964 and which have had environmental justice elements, such as allegations of substantially adverse environmental or health impact on a minority or low-income community by a transportation project. Case resolutions are actions that end or administratively close out complaints. These include such actions as determinations of no jurisdiction, withdrawals by complainants, resolutions achieved through alternative dispute resolution, findings of no violation, and negotiated settlements after discrimination findings under Title VI.
Source:	DOT will collect this data through the External Complaint Tracking System (XTRAK).
Limitations:	This measure is an initial indicator of how well DOT processes EJ complaints. Variables that will not necessarily be assessed include such factors as magnitude of injury, number of beneficiaries adversely affected, pervasiveness, and time constraints before irreparable damage occurs. Other statutory requirements exist for NEPA concerns.
Statistical Issues:	There is no significant error present in the subject data.
Verification & Validation:	Data will cover the entire universe of external complaints received by DOT, and will be entered into the system by operating administrations and DOT Office of Civil Rights staff.
Comment:	This indicator does not measure the impact of DOT's efforts to prevent the conditions that give rise to complaints. It does provide an initial measure of response timeliness, which is important to the public. The measure has been modified to the percent of cases that remain unresolved after one year. All environmental justice cases by definition relate to the concerns of a community of low income and/or minority people. In addition, the number of cases indicates the pervasiveness of community perception of significantly adverse environmental and health concerns.

Mobile source emissions Page 113

Measure:	Tons (in millions) of mobile source emissions from on-road motor vehicles. (FY)
Scope:	Figure is the sum of on-road mobile source emissions of carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter less than 10 microns in diameter (PM-10).
Source:	National Air Quality and Emissions Trends Report published annually by EPA. (EPA uses data from FHWA's Highway Performance Monitoring System - HPMS.)
Limitations:	On-road mobile source emissions estimates are modeled using vehicle data. Past data contain some variations due to changes in methodology used to obtain these on-road mobile source emissions estimates. EPA revises emission estimates periodically based on revised methodology. In 1999, EPA increased the annual emission burden trend based on the knowledge that heavy-duty diesel trucks manufactured since the early 1990's produce higher emissions during high-speed operations. Emissions data are reported in a 2-year time lag. Indicator captures all major mobile source emissions from on-road vehicles. It does not capture off-road mobile sources, such as agriculture and construction machinery, lawn mowers, aircraft, trains, and boats.
Statistical Issues:	The EPA's use of a mathematical model poses issues of model validation. The annual variation in the model's estimates, as measured by the regression standard error for data from years 1993 through 1998, is 2.38. The HPMS data used as input to the model are subject to sampling and nonsampling errors.
Verification & Validation:	EPA conducts verification and validation of data. FHWA field offices perform annual reviews of HPMS data that EPA uses as a part of its model.
Comment:	The National Ambient Air Quality Standards (NAAQS), as revised in July 1997, may create new challenges for DOT in meeting the air quality goal. Targets may need to be modified to reflect these changes.

Greenhouse gas emissions Page 115

Measure:	Metric tons (in millions) of carbon equivalent emissions from transportation sources. (This measure will be suspended after 2001.) (CY)
Scope:	Measure includes GHGs that would be subject to the Kyoto Protocol, if ratified by the Senate (e.g., CO_2, CH_4), but not other GHGs (e.g., water vapor). Emissions from fossil fuels combusted in civilian and military ships and aircraft engaged in international transport of passengers and cargo (i.e., those that are recorded separately as international bunkers) are not included. Does not include emissions from non-transportation mobile sources such as farm and construction equipment.
Source:	*Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-1998*, published by EPA, supplemented with EPA's Draft *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-1999*. Estimates are based on data from EPA and other agencies.
Limitations:	GHG emissions are estimated based on DOE estimates of aggregate supply of energy products such as motor gasoline and distillate fuel oil. Further disaggregation (e.g., of transportation modes and other uses such as agriculture) is not always available. Related "upstream" emissions and sequestration (e.g., from petroleum refining) are in separate categories. Procedures for calculating and applying GHG credits and permits have not yet been established.

Statistical Issues:	These data are external to DOT. They are subject to both sampling and nonsampling errors.
Verification & Validation:	EPA conducts verification and validation of data. DOT will participate as appropriate in reviewing data, methodology, and results.
Comment:	If entered into force, the Kyoto Protocol ("the Protocol") to the United Nations Framework Convention on Climate Change (UNFCCC) would establish a binding limit on aggregate U.S. emissions of six GHGs during 2008-2012, but would not establish any sector-specific limits. However, the Protocol would defer to the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) for the development of guidelines for reducing emissions associated with combustion of marine and aviation bunker fuels, respectively. The Protocol would provide for the transfer of emissions credits and/or permits between sectors and countries, but would require further development of accounting and other procedures. Pending the establishment of a national goal for greenhouse emissions, DOT will monitor this measure only.

Aircraft noise exposure Page 116

Measure:	**Number of people in the U.S. (in thousands) who are exposed to significant aircraft noise levels (65 decibels or more). (FY)**
Scope:	Residential population exposed to aircraft noise above Day-Night Sound Level of 65 decibels around U.S. airports with the greatest number of commercial jet take-offs and landings.
Source:	A statistical modeling technique (the MAGENTA model) is applied using U.S. population data from the Department of Commerce, locally developed traffic distribution (route and runway utilization), and aircraft distributions developed using the Official Airline Guide and current aircraft registration databases. The local traffic utilization data is available for the busiest U.S. airports in the form of studies developed for the FAA's Integrated Noise Model (INM). For smaller airports, a generic statistical procedure was employed.
Limitations:	No actual count (i.e., using a local survey) is made of the number of people exposed to aircraft noise. No military or general aviation aircraft are included in the FAA's model. Aircraft type and event level can be considered current. However, the majority of the databases used to establish route and runway utilization were developed from 1990 to 1997, with many of them now over seven years old. Changes in airport layout including expansions may not be reflected. The benefits of federally funded mitigation, such as sound insulation or buyout, are not accounted for at present. Future development of the methodology will attempt to quantify the gains (reduction in people exposed) due to these actions.
Statistical Issues:	This measure is derived from model estimates that are subject to errors in model specification. The estimates of population data will be revised once the new U.S. Census data for 2000 is released and the model software is updated accordingly.
Verification & Validation:	The Integrated Noise Model has been validated with actual acoustic measurements at both airports and other environments such as areas under aircraft at altitude. External forecasts data are from primary sources. The MAGENTA population exposure methodology has been thoroughly reviewed by an ICAO task group and was validated for several airport specific cases.
Comment:	FY 2000 was the first year measuring using the MAGENTA model.

Measure:	Gallons spilled per million gallons shipped by maritime sources. (FY)
Scope:	Spills from vessels and waterfront facilities that are the target of Coast Guard regulatory prevention efforts are counted; other spills are not. Oil spills of 1 million gallons or more are excluded (or shown separately) from data since they are rare (they do not occur every year) and would have an inordinate influence on statistical trends. The 1 million gallon threshold is the same as that used in the National Contingency Plan for defining major oil spills in coastal waters. Annual performance targets are calculated to achieve a 20% reduction in gallons spilled over the next five years from a moving average of the last 5 years.
Source:	Spill amounts (numerator) are obtained from the Coast Guard Marine Safety Information System (MSIS). By regulation, spills are reported to the National Response Center or to the Coast Guard Federal On-scene Coordinator. Spill reports are normally made by the representatives of the party spilling the oil. Sometimes spill reports are received from third parties, or spills are discovered by Coast Guard personnel. Data on waterborne oil shipments (denominator) is from U.S. Army Corps of Engineers "Waterborne Commerce Statistics".
Limitations:	The investigation, retrieval, analysis and reporting processes result in under-reporting for the most recent year, with the most significant effects over the most recent 5 months. Estimates are often used to compensate for this known data-lag. It is probable that some spills are not reported. Large spills that impact a large area, or are located in heavily transited areas are more likely to be reported than small spills or spills in remote locations. The actual amount of oil spilled may vary significantly from the amount estimated. The significance of this error depends on the unique circumstances of each case. However, the error rate for volume of oil spilled is estimated to be less than 5% because large spills receive a high level of review and account for most of the volume spilled. Duplicate spill entries are sometimes entered into MSIS, and some spills are mistakenly omitted or entered incorrectly. Verification procedures strive to correct these errors, but it is probable that some are not corrected. By excluding non-regulated sources and major oil spills, the measure does not capture the amount spilled annually from all sources. However, the exclusions are helpful in assessing the impact of existing Coast Guard regulations and policies (program management).
Statistical Issues:	The major sources of uncertainty in this measure are the estimation error (as a result of the data-lag), estimation error (actual amount of oil spilled may vary from the amount estimated), and response error (as a result of spills not being reported to or discovered by the Coast Guard). The regression standard error for year-to-year chance variation is 1.8 for the number of gallons spilled per million gallons shipped, based on data from 1995 through 1999.
Verification & Validation:	Verification and validation occurs at several levels. Edit checks within MSIS can detect some incorrect or missing data and force review and correction before data entry is completed. Selection lists for certain data fields also reduce the opportunity for data entry error. All investigations go through one level of review at the field unit for accuracy. Investigations of spills are also usually reviewed at district and headquarters offices. The headquarters Data Administration staff conducts periodic quality control checks to identify entry errors such as missing data or miscoding, and corrects any errors identified. Each spill involving 1000 gallons or more is reviewed before it is included in the measure. Errors identified are referred to either the Data Administration staff or the Investigations and Analysis staff for correction.

Comment: During FY 2001, the Marine Safety Information System (MSIS) will be replaced by the Marine Information System for Safety and Law Enforcement (MISLE). While the new system will be a significant improvement, it is expected to cause serious difficulties in making performance comparisons. One factor is that many business processes were re-designed in conjunction with system development. Another factor is that data quality under MISLE is expected to be superior to that of MSIS. While this represents improvement, it may cause near-term problems in making meaningful comparisons of data between the two systems.

Pipeline hazardous materials spills Page 120

Measure:	**Tons of hazardous liquid materials spilled per million ton-miles shipped by pipelines. (CY)**

Scope: Hazardous liquid pipeline incidents are those that result in a fatality or injury resulting in hospital treatment or hospitalization, property damage equal to or greater than $50,000, or more than 50 barrels spilled. (A rulemaking in 2001 proposes to lower the reporting threshold for spill amount from 50 barrels to five gallons.) This measure tracks only releases from hazardous liquid pipelines to the environment. Natural gas pipeline releases vaporize into the atmosphere and do not have long-term significant impact on the environment, and thus are not included in this measure.

Source: Pipeline operators report to RSPA on form 7000-1, Hazardous Liquid Accident Report. RSPA records the data in RSPA's Hazardous Materials Information System.

Limitations: Because of the magnitude and frequency of fluctuations in the historical data for this measure, a short-term goal will be of limited use in tracking program performance. RSPA does not collect volume shipped data but uses the Association of Oil Pipelines annual Fact Sheet as the source for this part of the measure.

Statistical Issues: These spill incidents are rare and probably not independent events. The performance measure is a ratio; so uncertainty in the denominator can have a large effect on the overall uncertainty.

Verification & Validation: RSPA reviews the data for accuracy. Supplemental reports are requested where obvious reporting shortcomings are indicated. Additionally, the ASME B31.4 liquid pipeline data review subcommittee performs an annual examination of the hazardous liquid incident reports. Known problems with under-reporting property damages and spill quantities are being addressed by a rulemaking in 2001 to revise accident reporting requirements to implement a new "open and closed" status to insure that operators continue to file supplemental reports until the spill consequence is fully reported. A new industry data improvement effort piloted in 1999 will provide better precursor data and more extensive data about impacts to the environment of hazardous liquid pipeline spills. The American Petroleum Institute is housing the voluntary data repository, which will collect information on spills down to five gallons (down to one gallon in water) for all pipeline spills, including those currently not jurisdictional to RSPA.

Comment: The data for this measure fluctuate year to year. RSPA is studying the spill data to determine the nature of this fluctuation and improve this measure.

Details on DOT Measures of National Security

Aviation security Page 125

Measure:	**Detection rate for explosive devices and weapons that may be brought aboard aircraft. (FY)**
Scope:	Machine performance test results and automated threat-image projection (TIP) and FAA field agent testing of aviation security screener proficiency to detect and resolve images or FAA test objects that simulate weapons and explosive devices in checked and carry-on baggage, or carried on the person through an airport security checkpoint.
Source:	FAA Office of Civil Aviation Security Airport and Air Carriers Information Reporting System (AAIRS). Laboratory test results from the William J. Hughes Technical Center.
Limitations:	No comment.
Statistical Issues:	There is no significant error present in the subject data.
Verification & Validation:	Special "red team" testing led by agents based at FAA headquarters is used to validate field test results. AAIRS data is subject to multiple layers of review.
Comment:	The White House Commission recommended more aggressive, realistic testing. Funding that began in 1997 enabled an increase in testing as more field agents were hired and trained. Prior to 1998, data from realistic testing were too sparse to be conclusive.

Critical transportation infrastructure protection Page 127

Measure:	**Of those who need to act, percent who receive threat information within 24 hours. (FY)**
Scope:	Threat information, in this context, is defined as credible information (both time-sensitive/action-oriented and informational) received by the Intelligence Community, analyzed by OIS and distributed in the form of a Transportation Security Information Report, generated by OIS for distribution by the operating administrations (OAs). Figure is derived from the percentage of transportation security officials and industry representatives that receive threat information from OIS through the OAs within the 24-hour period. Security representatives and officials will be randomly sampled by OIS within 48 hours of information dissemination and asked if and how soon they received the subject material.
Source:	Internally prepared. Survey conducted by OIS of both DOT personnel and industry security contacts.
Limitations:	Data: Relies on the reporting of the customers and consumers of this information. Reporting could be skewed to reflect positively on the dissemination process within the operating administrations. Indicator: This measure identifies only whether there are possible breakdowns and bottlenecks in the dissemination process. It does not identify where those breakdowns specifically may be in the dissemination chain.

Statistical Issues:	Since these data are collected through a sample survey, they are subject to sampling and nonsampling errors.
Verification & Validation:	Customers will be randomly surveyed at all levels within the dissemination process, not solely the end users. Consequently, the reporting of dissemination times and officials who are in receipt of the information can be crosschecked for verification and validity of data.
Comment:	None.

Military Readiness Page 130

Measure:	**Percentage of days that the designated number of critical defense assets (high endurance cutters, patrol boats, and port security units needed to support Defense Department operational plans) maintain a combat readiness rating of 2 or better. (FY)**
Scope:	Only high endurance cutters, patrol boats, and port security units that are designated as necessary for defense plans are included. The specific units required are classified.
Source:	DOD Status of Readiness and Training System (SORTS) – Database used by the Coast Guard in applying DOD standards to its assets to determine a readiness score.
Limitations:	SORTS uses a multi-factor matrix to calculate the readiness status. Although specific criteria are outlined for each factor, some judgment is required in applying criteria. Different units and personnel may apply criteria slightly differently.
Statistical Issues:	This particular performance measure in FY 2000 is based on readiness levels of two types of vessels, patrol boats and high endurance cutters, which have extremely different levels of readiness. In addition, a third resource, Port Security Units (PSUs), is measured for its readiness. PSUs are comprised of Coast Guard Reservists and Active Duty personnel, trained to protect foreign ports for expeditionary forces. The drastic change between FY 1999 and FY 2000 performance was caused in large part due to the fact that the requirement to report the Contingency Personnel Requirements List (CPRL) (the full wartime personnel strength requirement) in the unit SORTS report was waived for FY 2000 and subsequent years pending validation of personnel requirements that have changed due to new equipment and operational procedures. The Navy has been informed of this waiver and has not objected to reporting personnel strength using the less demanding Coast Guard standards for peacetime operations in view of the fact that Reserve Unit personnel are available to quickly bring Coast Guard units up to the full wartime personnel strength requirements in the event of a war.
Verification & Validation:	Units self assess and report readiness using objective standards. Unit readiness is periodically validated through inspections, assistance visits, and in some cases training and assessment at Navy facilities. These assessments are conducted by external, field level commands (such as Coast Guard areas, districts, and groups).
Comment:	The Coast Guard will continue to reassess the overall adequacy of this measure.

Sealift capacity — Page 132

Measure:	**1. Ship capacity (in twenty-foot container equivalent units, or TEUs) available to meet DOD's requirements for intermodal sealift capacity. (FY)** **2. Ship capacity (in million square feet) available to meet DOD's requirements for intermodal sealift capacity. (This measure will be discontinued after 2000) (FY)**

Scope: Includes the aggregate TEUs (or estimated square footage) of cargo capacity for ships enrolled in the Maritime Security Program (MSP) and Voluntary Intermodal Sealift Agreement (VISA).

Source: MARAD/USTRANSCOM database of the militarily useful sealift capacity for ships enrolled in the MSP and VISA programs, based on vessel capacity data obtained from the vessel operators.

Limitations: MARAD, DOD and operator data on vessel characteristics (e.g., deck strength in pounds per square feet, deck height, container stowage factors), which are used to determine the portion of a vessel suitable for carrying military cargo, are not always consistent. For example, the majority of ships in MSP/VISA are containerships, which normally are measured in TEUs; however, DOD generally measures surge sealift ships, most of which are Roll-on/Roll-off vessels, in square feet. Historical data prior to FY 1997 are unavailable since the MSP and VISA programs were not enacted until that year.

Statistical Issues: None.

Verification & Validation: MARAD works with DOD and the maritime industry to use the most accurate information. MARAD validates the vessel capacity data, which are obtained from the vessel operators, through comparisons with internationally recognized databases of vessel characteristics (such as Lloyd's Register data), vessel trim and stability information, stowage plans and other cargo loading documents.

Comment: None.

Mariner availability — Page 133

Measure:	**Of the mariners needed to crew combined sealift and commercial fleets during national emergencies, the percent of the total that are available. (FY)**

Scope: The availability of licensed and unlicensed mariners is determined based on the number of mariners that have sea service on U.S.-flag oceangoing merchant vessels over 1,000 gross tons within five years. The mariner pool includes licensed and unlicensed actively sailing mariners and inactive mariners who have the necessary skills and retain the appropriate license/rating to operate sealift ships, defined by shipboard position and U.S. Coast Guard certification. This pool is then compared to the DOD and commercial manpower requirements to determine sufficiency of the labor force. Only oceangoing merchant vessels over 1,000 gross tons are considered because mariners on these vessels have skills required for emergency sealift operations. The targets are based on a sealift operation that extends beyond 6 months, necessitating relief for the mariners who were sailing at the start-up of the operations.

Source: U.S. Coast Guard Merchant Mariner Licensing and Documentation (MMLD) system. The Coast Guard is the lead Federal agency for regulating, licensing and documenting professional merchant mariners. MMLD provides information on both actively sailing mariners and inactive mariners, including their skill level and seafaring employment.

Lloyd's. MARAD also obtains information to track the use of U.S.-flag commercial ships active in international trade. MARAD projects the size of the active, ocean-going, commercial fleet. The size of this fleet has a direct correlation to the size of the commercial pool of mariners, based upon commercial crewing rules.

MARAD/DOT mariner surveys. New for FY 2001, a random sample of currently licensed mariners is now being surveyed, in conjunction with the Bureau of Transportation Statistics, to provide a more accurate determination of the number of currently qualified mariners as well as information on mariner availability for sealift employment during national defense emergencies.

Limitations: The size of the active and inactive mariner pool can be fairly well estimated from the MMLD. MARAD is dependent upon the accuracy of the U.S. Coast Guard's data collection and electronic record keeping on the size of the mariner population. MARAD integrates these data into its own system for analysis and reporting. The accuracy of the data continues to improve with time. Because the MMLD does not contain all of the information on individual mariners contained in their paper records, it may not provide a comprehensive enough picture of mariner availability from which to draw conclusions.

Statistical Issues: The primary area of uncertainty lies within the MMLD system, which MARAD uses to define the population of available mariners. For example, approximately 20% of the individuals reported as employed as officers on U.S.-flag vessels did not have an original issue license transaction in the database. Thus, MARAD was unable to determine the period when those individuals held licenses. Also, operators of some large oceangoing vessels are not required to report mariner employment to the USCG, and evidence of sea service provided by individual mariners to fulfill requirements for upgrading their rating is not entered in the MMLD.

Verification & Validation: The MMLD system is currently the only source of electronic data on mariner qualifications and employment. MARAD continues to work with the USCG to improve the MMLD system. The new MARAD/DOT mariner survey data will be used to estimate the number of qualified mariners available and willing to support sealift crewing positions. This determination is a matter of individual choice and is subject to change. MARAD intends to develop a plan for maintaining current information on mariner availability based on the results of the survey.

Comment: None.

DOD-designated port facilities Page 134

Measure:	**Percentage of DOD-designated strategic ports for military use that are available when requested by DOD. (FY)**

Scope: The measure consists of the total number of DOD-designated strategic ports for military use that are assessed as able to meet DOD-readiness requirements on 48-hour notice, expressed as a percentage of the total number of DOD-designated strategic ports. Presently there are 14 DOD-designated strategic ports. Port readiness is based on monthly reports submitted by the ports and semi-annual port readiness assessments by MARAD and the Military Traffic Management Command. The MARAD/DOD semi-annual port assessments provide data or other information on a variety of factors, including the following: the capabilities of channels, anchorages, berths, and pilots/tugboats to handle

larger ships; rail access, rail restrictions, rail ramp offloading areas, and rail storage capacities; the availability of trained labor gangs and bosses; number and capabilities of available cranes; long-term leases and contracts for the port facility; distances from ports to key military installations; intermodal capabilities for handling containers; highway and rail access; number of port entry gates; available lighting for night operations; and number and capacity of covered storage areas and marshalling areas off the port.

Source: MARAD data are derived from monthly reports submitted by the strategic ports and from MARAD/DOD semi-annual port assessments.

Limitations: Port readiness assessments were not made prior to 1995; therefore, data are only available for 1995 and later years. MARAD conducts a monthly survey of all strategic facilities to determine whether they meet the DOD availability requirement. This information is provided to MARAD as a self-assessment by the port agency that owns the facility; there is some degree of subjectivity in determining the availability. As part of the overall planning process, MARAD and DOD conduct semiannual visits to independently verify and reassess port capability and availability. The indicator is by definition a point-in-time judgment. The results of the monthly and semi-annual reports used to measure port readiness can vary in accordance with the intensity of commercial activity at a given port at the time of the assessment. Also, the monthly reports do not include the same level of detail as the semi-annual assessments, although MARAD is in continuous contact with port officials to minimize response error.

Statistical Issues: The measurement of port readiness is an overall measure derived from MTMC comments, monthly readiness reports and semi-annual assessments. As such, it is a subjective measure.

Verification & Validation: The MARAD/DOD semi-annual port visits independently verify and reassess not only the DOD-designated facilities, but also the total capability of the strategic port.

Comment: None.

Ready Reserve Force (RRF) activation Page 136

Measure:
1. **Percent of RRF no-notice activations that meet assigned readiness timelines. (FY)**
2. **Percent of days that RRF ships are mission-capable while under DOD control. (FY)**

Scope: DOD conducts no-notice exercises, called "Turbo-Activations," annually to assess RRF activation readiness. The USTRANSCOM, via MSC, randomly selects and orders the activation of a number of RRF ships on an annual basis to test their capability to be ready-for-sea (i.e., mission-capable) within their assigned readiness timeframes of 4, 5, 10, or 20 days. In FY 2000, 18 RRF vessels were ordered activated without advance notice and 13 were operated by MSC.

Source: MARAD maintains a database on the number of days it takes to activate each RRF ship and its operational reliability. The MSC activation order is received either by phone call or message. Documents produced during the no-notice activation period comprise the data source for determining the amount of time taken to activate each ship. Non-performance time is based on the MSC Casualty Reporting (CASREP) system, which identifies casualties that are of a severity to prevent the ship from performing the mission. These messages are passed from the ship's Captain to MSC, the Ship Manager, and MARAD. The reliability of the RRF ships once activated, as measured in the percent of

days that RRF ships are mission-capable while under DOD control, is primarily determined by the number of days it takes to repair a ship that has become inoperative. For example, the low percent of mission capability in 1997 (95.2) was the result of one ship being out of service for 156 days while undergoing repairs.

Limitations: None.

Statistical Issues: Since the population of vessels covered by these measures often consists of a very small number of vessels (as low as 13 vessels in FY 2000), a large swing in results can occur from just one ship not being available on time or one ship having operational problems.

Verification & Validation: The source of the activation data is the actual activation order from DOD to MARAD and the documents produced during a no-notice activation. These fix the actual time of call-up and the time when the vessel is "Ready for Sea" (or tendered to MSC). The Ready for Sea time is agreed to by MARAD and the on-board MSC representative and reported to DOD by official message. The time taken to activate each ship is maintained in the ship's logbook and in official DOD, MSC, and MARAD records.

The collection of data regarding mission capability under MSC operational control starts when MSC officially accepts delivery of RRF ships with date and time documentation. The Captain of the ship reports all problems that are of a severity to prevent the ship from performing its mission to MSC, the Ship Manager, and MARAD. The Captain also reports when the problem has been corrected. This information is entered by MSC into its CASREP system.

Drug interdiction Page 138

Measure:	**Seizure rate for cocaine that is shipped through the transit zone. (FY)**

Scope: Seizure rate is a measure consisting of the amount of cocaine seized by the Coast Guard divided by the noncommercial maritime cocaine flow, expressed as a percentage. Noncommercial is defined as any vessel or aircraft not engaged in port-to-port transfer of cargo/passengers for the primary purpose of business profit. Examples are pleasure craft, fishing vessels, offshore work-boats, or freighters carrying cargo as a means of disguising illegal drugs.

Source: The amount of cocaine flow shipped by non-commercial means through the transit zone is estimated in the Interagency Assessment of Cocaine Movement (IACM) published by the Office of National Drug Control Policy (ONDCP). The amount of cocaine seized is measured by Coast Guard crews and reported through the Coast Guard Law Enforcement Information System.

Limitations: It is probable that non-entry, duplication, and coding errors are present in seizure amount data (numerator); however, this error is likely to be small. The cocaine flow amount (denominator) is estimated through a complex process using many different sources of information. Due to the secretive nature of the illegal drug trade, cocaine flow estimates may contain significant errors. The size of this error may vary from year to year; the extent of this is not known. The estimation process changes slightly each year as improvements are made, so year-to-year comparisons of the flow are not completely consistent. The accuracy of the official cocaine flow estimate has been questioned by some individuals and organizations outside of government that have an interest in U.S. drug policy. ONDCP continuously attempts to refine this estimate to improve

the measurement of interdiction activities. This measure only addresses cocaine; formal flow assessments do not exist for other major drugs. This measure is not designed to include cocaine shipped by commercial means such as large container vessels; however, it is probable that a small amount of cocaine included in the numerator is actually related to commercial shipping. This distinction between commercial and noncommercial is better for program management; at-sea interdiction of commercially conveyed cocaine, particularly when shipped in containers, is extremely difficult, and not the focus of the Coast Guard program.

Statistical Issues: The primary source of uncertainty in estimating seizure rate for cocaine is the denominator. Although the numerator estimate of cocaine seized is relatively accurate, the estimate of the amount shipped in the denominator is far more variable. The regression standard error for year-to-year chance variation in the cocaine seizure rate is 4.2%, based on data from 1995 through 1999.

Verification & Validation: Verification and validation occurs in several places in the data reporting and collection process. Data entry software helps ensure data quality and consistency by employing selection lists and logic checks. Internal analysis and review of published data by external parties help identify errors.

Comment: This measure is consistent with the goals contained in the President's National Drug Control Strategy.

Migrant interdiction Page 140

Measure:	**Success rate for undocumented migrants attempting to enter the U.S. over maritime routes. (FY)**

Scope: Measure includes Cuban, Dominican, Haitian, and Chinese migrants, as these are the primary groups using maritime channels and the groups for which formal flow estimates exist. Success rate is the estimated number arriving by maritime channels divided by those that pose a threat of migration (estimated intent).

Source: Data is obtained from the Coast Guard and from the Immigration and Naturalization Service (INS). Estimates of migrants who successfully arrive and estimates of those with a high potential for undertaking the voyage are derived (with a consistent methodology) from investigations of incidents, interviews of detainees, and intelligence gathering. Sources for this information are the Coast Guard, INS, and other authorities.

Limitations: The numbers of illegal migrants entering the U.S., and the numbers of potential migrants, are derived numbers subject to estimating error. Because of the speculative nature of the information used, and the secretive nature of illegal migration, particularly where professional smuggling organizations are involved, the estimated potential flow of migrants may contain significant error. The measure tracks only four migrant groups at this time. A small number of migrants (approximately 10%) from various source countries are not included because formal flow estimates of migrants leaving these countries are not available. Using the number of potential migrants in the denominator helps address the deterrence value of Coast Guard operations, but could lead to confusion of this measure with a simple interdiction rate. Trend information prior to 1995 is not available.

Statistical Issues:	The primary source of uncertainty in estimating the success rate for undocumented migrants is the denominator, which is an estimate of the flow of migrants, both documented and undocumented.
Verification & Validation:	The numbers of migrants reaching the U.S. via maritime routes and the number of "potential migrants" are estimated. Methodologies and data are continuously reviewed. The Coast Guard has developed the estimation techniques that support this indicator over the last six years in order to more consistently use intelligence information. They are seeking independent assessment of the methods, and look to improve the process in the future.
Comment:	Partly because maritime threats of illegal migration have come from a limited number of sources, the Coast Guard and others have developed quantified threat estimates to better manage interdiction. Over the past six years, estimation techniques have been improved to remove as much subjectivity and inconsistency as possible. It should be noted that past information reflects the success of intentional illegal activity. While some DOT measures allow accurate projection of likely future outcomes, the highly variable nature of illegal migrant activity limits the ability to project future outcomes based on performance in the immediate past.

Maritime boundary incursions Page 142

Measure:	**Number of incursions into the U.S. Exclusive Economic Zone (EEZ). (FY)**
Scope:	FFVs sometimes illegally fish in waters subject to U.S. jurisdiction. This measure tracks the number of incursions observed or reported in our EEZ.
Source:	Coast Guard Law Enforcement Planning and Assessment System. Reports come from USCG assets patrolling the U.S. EEZ.
Limitations:	The Coast Guard must have an asset close enough to observe and document a fishing violation in U.S. waters. Also, this is a measure of "detected" incursions, and while a lower number of detected incursions may indicate that the target was met, it can also be attributed to decreased surveillance availability, particularly from aircraft. Because of flaws in the detected incursions measure, the Coast Guard is currently developing an interdiction rate measure that better reflects its resource capabilities and international cooperation efforts.
Statistical Issues:	None.
Verification & Validation:	Validation is accomplished by program managers at USCG Areas and Headquarters.
Comment:	None.

Regional stability Page 144

Measure:	**Percent of responses to Department of Defense or State Department assistance requests. (FY)**
Scope:	There are several directives to provide for these operations. Most notably this includes: • 14 United States Code (USC) 1 provides "The Coast Guard… shall be a military service and a branch of the armed forces of the United States at all times. " • 14 USC 2 provides "The Coast Guard … shall maintain a state of readiness to function as a specialized service in the Navy in time of war."

- 14 USC 141 provides "The Coast Guard may…perform any activity for which such personnel and facilities are especially qualified. "
- 14 USC 145 provides "The Coast Guard, may … make available … personnel, vessels, facilities, and equipment, and agree to undertake such assignments and functions for each other as they may agree are necessary and advisable."
- The October 3, 1995 Memorandum of Agreement between the Secretaries of Defense and Transportation provides for Use of Coast Guard Resources and Capabilities in support of the National Military Strategy. This includes maritime interception operations, environmental defense operations, port operations, security and defense, and peacetime military engagement.

Consistent with these mandates, the Coast Guard determines training and exercise resources and operational commitment needed to maintain readiness to meet warplan and contingency requirements, and responds to DOD requests for services.

Source: Coast Guard independent assessment of training and exercise requirements and DOD requests for resources.

Limitations: At the beginning of each year, the Coast Guard allocates resources to conduct operations, including Out of Hemisphere operations in support of the regional Commanders-In-Chief (CinC) in excess to minimum training and exercise requirements. Although these requests are negotiated based on an expectation of a certain level of support, the CinCs often request allocations that exceed Coast Guard allowances. There is currently a backlog of requests for cutter resources to deploy in support of National Military Strategy requirements.

Statistical Issues: None.

Verification & Validation: Responses to requests for Coast Guard resources and capabilities.

Comment: Often CINC requests are modified by the Coast Guard's ability to meet the CINC's needs. CINCs will not request Coast Guard help beyond our capabilities, but typically their combined request is more than the resources allocated by the Coast Guard for this mission area.

Energy efficiency Page 146

Measure:	**Transportation-related petroleum consumption (in quadrillion BTUs) per trillion dollars of Real Gross Domestic Product (GDP). (CY)**

Scope: Measure includes primary consumption of petroleum for transportation, in quadrillion BTUs. This does not account for petroleum-produced electricity that is used in transportation; however, this is less than 1% of petroleum use. Petroleum use is normalized to real GDP, in constant 1996 dollars.

Source: U.S. Department of Energy *Annual Energy Review 1998* and *Annual Energy Review 1999*.

Limitations: Energy consumption does not include petroleum-produced transportation electricity. The measure does not capture actual energy efficiency (BTUs per passenger-mile traveled).

Statistical Issues:	These data are external to DOT. They are subject to both sampling and nonsampling errors. Based on 1993-1999 data, chance variation from year to year in the transportation energy efficiency measure has a regression standard error of 0.019.
Verification & Validation:	Data is taken from external sources, which conduct their own verification and validation.
Comment:	Petroleum use is normalized to the nation's real GDP in order to capture the nation's economic exposure to petroleum use in transportation. Beginning in 1999, the GDP baseline was changed from constant 1992 dollars to 1996 dollars.

Details on DOT Measures of Organizational Excellence

Customer satisfaction Page 150

Measure:	**1. Percent of customers satisfied with transportation system performance. (FY)** **2. Percent of customers satisfied with customer service provided by DOT. (FY)**
Scope:	1. The measure is based on survey data aggregated across questions on various types of transportation issues. These survey questions ask specifically about satisfaction with what the Federal Government is doing to address a variety of transportation issues. Some of these issues are: minimizing air pollution, noise, cost, security, terrorism, crime, access for persons with disabilities, providing public transportation, standards for vehicle emissions, traffic congestion, vehicle safety standards, and safe air travel. Response categories provided for these questions are: very dissatisfied, dissatisfied, neutral, satisfied, and very satisfied. Data from these questions are aggregated across the questions to develop an overall measure. Data are collected from the non-institutionalized U.S. adult population. 2. The measure is based on survey data from a question that is asked only of persons who contacted any Department of Transportation agency in the past year. The question asks, "Please rate your overall satisfaction with the level of service you received." Response categories provided are: very dissatisfied, dissatisfied, neutral, satisfied, and very satisfied. Data are collected from the non-institutionalized U.S. adult population.
Source:	Bureau of Transportation Statistics Omnibus Monthly Household and Establishment Surveys.
Limitations:	Data collection utilizes Computer Assisted Telephone Interviewing (CATI) and is collected using a stratified list-assisted random digit dialing (RDD) probability sample. Samples are subject to sampling error. The margin of error for these measures is estimated to be approximately plus or minus 11 percentage points. An overall average response rate for the data was approximately 20%.
Statistical Issues:	Data from a sample are not only subject to sampling error, but also nonsampling error. Minimization of some nonsampling error is achieved using sampling weights. Sampling weights minimize nonsampling error by adjusting for non-response and noncoverage of non-telephone households through post-stratification to Census Bureau population control totals for age, gender, and education. Other efforts to minimize nonsampling errors are discussed below in 'Verification & Validation.'
Verification & Validation:	Data collection is managed by a survey research contractor who has responsibility for pretesting the survey instrument and for hiring and training the telephone interviewers. Interviewers are trained during a 16-hour course and have to be certified before they start interviewing. During the course of data collection, interviewers are randomly monitored to ensure quality control. BTS reviewed the interviewer training procedures. The survey instrument has built-in data quality control features, and numerous data edits are used to clean the data before analysis.

Comment:	None.

Employee satisfaction Page 152

Measure:	**Percent of employees satisfied with working for DOT. (FY)**
Scope:	TBD
Source:	TBD
Limitations:	TBD
Statistical Issues:	TBD
Verification & Validation:	TBD
Comment:	The methodology for this measure is under development.

Organizational performance and productivity Page 154

Measure:	**Percent of goals met or trending in the right direction. (FY)**
Scope:	The measure is based on the aggregated results of all performance measures reported in the annual DOT Performance Report. Report year results are compared to the corresponding goal target to determine if the goal has been met (or exceeded). If the target has not been reached, then the most recent three years of performance data are reviewed to determine if the results over that period are trending in the right direction.
Source:	Annual performance results and goal targets are compiled and developed by the individual goal owners. This information is reported directly to the DOT Office of Budget and Program Performance.
Limitations:	Preliminary estimates of the most recent year's performance are necessary for several measures because of data reporting limitations. Some data is collected from external sources (e.g., States and industry), often on a voluntary reporting basis but sometimes with mandatory reporting requirements, and are not available in time to meet submission requirements for this report. Therefore, results for this measure may change as individual measure data is finalized. All the limitations described in this Appendix for the individual performance measures also have an effect on this measure.
Statistical Issues:	The variability of the individual measures is inherent in this measure. For goals not met, to determine if performance is trending in the right direction, a straight line is fit through the most recent three years of performance data. If the slope of the line is positive and the desired performance is for an increase in the value (e.g., transit ridership), then the measure is trending in the right direction. Similarly, if the slope of the line is negative and the desired performance is for a decrease in the value (e.g., large truck-related fatalities), then the measure is trending in the right direction.
Verification & Validation:	DOT's Office of Budget and Program Performance and the Bureau of Transportation Statistics' (BTS) Office of Statistical Quality each review the performance data for all measures to ensure its accuracy. BTS checks all preliminary estimates and target goals for statistical reliability.
Comment:	None.

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Appropriation Accounts by Strategic and Organizational Goals				(Some totals may not add exactly due to rounding.)				
Operating Admin-istration	*Appropriation Accounts in the President's FY 2002 Budget Appendix* Spending Authority (BA & Ob. Lim.)	Totals ($M)	Safety	Mobility	Economic Growth	Environment	Security	Org. Excellence
OST	**Salaries and Expenses**	69.5	0.0	0.0	9.0	0.1	2.5	57.9
	Office of Civil Rights	8.5	0.0	0.0	0.0	8.5	0.0	0.0
	Minority Business Outreach	3.0	0.0	0.0	3.0	0.0	0.0	0.0
	Transportation Planning, R&D	5.2	1.1	1.3	1.7	1.2	0.0	0.0
	Essential Air Service	40.0	0.0	40.0	0.0	0.0	0.0	0.0
	MBRC Direct loan subsidy & admin	0.9	0.0	0.0	0.9	0.0	0.0	0.0
	OST SUBTOTALS:	**127.1**	**1.1**	**41.3**	**14.6**	**9.8**	**2.5**	**57.9**
USCG	**Operating Expenses**	3,382.8	863.0	621.0	0.0	890.0	1,009.0	0.0
	Acquisition, Construction & Improvements	659.3	151.0	136.0	0.0	159.0	213.0	0.0
	Environmental Compliance & Restoration	16.9	0.0	0.0	0.0	16.9	0.0	0.0
	Retired Pay	876.3	* Not included in performance totals					
	Reserve Training	83.2	0.0	0.0	0.0	0.0	83.2	0.0
	Research, Development, Test and Eval.	21.7	0.0	0.0	0.0	0.0	4.0	18.0
	State Recreational Boating Safety Programs	64.0	64.0	0.0	0.0	0.0	0.0	0.0
	Oil Spill recovery, Coast Guard	61.2	0.0	0.0	0.0	61.2	0.0	0.0
	Alteration of Bridges	15.5	0.0	15.5	0.0	0.0	0.0	0.0
	USCG SUBTOTALS:	**5,181.1**	**1,078.0**	**772.5**	**0.0**	**1,127.1**	**1,309.2**	**18.0**
FAA	**Operations**	6,886.0	3,466.2	2,858.0	5.2	42.2	224.6	289.9
	Grants-in-aid for Airports	3,300.0	118.4	2,757.1	0.0	394.2	28.8	1.5
	Facilities and Equipment	2,914.0	452.5	2,215.6	0.0	78.1	167.9	0.0
	Research, Engineering, and Development	187.8	84.0	42.8	0.0	7.6	53.4	0.0
	FAA SUBTOTALS:	**13,287.8**	**4,121.1**	**7,873.5**	**5.2**	**522.1**	**474.7**	**291.4**
FHWA	**Federal-Aid Highways**	32,169.1	1,046.5	28,404.0	50.3	2,646.8	0.0	21.4
	Administration	317.7	10.3	278.9	0.6	19.9	0.0	8.1
	FHWA SUBTOTALS:	**32,486.7**	**1,056.8**	**28,682.9**	**50.9**	**2,666.8**	**0.0**	**29.5**
FMCSA	**Motor Carrier Safety**	139.0	138.4	0.0	0.0	0.0	0.0	0.6
	National Motor Carrier Safety Program	204.8	204.8	0.0	0.0	0.0	0.0	0.0
	FMCSA SUBTOTALS:	**343.8**	**343.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.6**
NHTSA	**Operations and Research**	193.6	193.7	0.0	0.0	0.0	0.0	0.3
	Highway Traffic Safety Grants	223.0	223.0	0.0	0.0	0.0	0.0	0.0
	National Driver Register	2.0	2.0	0.0	0.0	0.0	0.0	0.0
	NHTSA SUBTOTALS:	**418.6**	**418.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.3**

Appropriation Accounts by Strategic and Organizational Goals

(Some totals may not add exactly due to rounding.)

Operating Admin-istration	*Appropriation Accounts in the President's FY 2002 Budget Appendix* Spending Authority (BA & Ob. Lim.)	Totals ($M)	Safety	Mobility	Economic Growth	Environment	Security	Org. Excellence
FRA	**Safety and Operations**	111.4	110.3	0.0	0.0	0.0	0.0	1.0
	Railroad Research and Development	28.3	28.3	0.0	0.0	0.0	0.0	0.0
	Penn Station Redevelopment	20.0	0.0	20.0	0.0	0.0	0.0	0.0
	Next Generation High Speed Rail	25.1	15.6	9.5	0.0	0.0	0.0	0.0
	Amtrak Reform Council	0.8	0.0	0.0	0.0	0.0	0.0	0.8
	Capital Grants to Amtrak	521.5	0.0	521.5	0.0	0.0	0.0	0.0
	FRA SUBTOTALS:	**707.0**	**154.3**	**551.0**	**0.0**	**0.0**	**0.0**	**1.8**
FTA	**Formula Grants**	3,592.0	0.0	2,416.0	0.0	1,158.8	0.0	17.3
	Capital Investment Grants	2,841.0	0.0	1,803.9	0.0	1,009.2	0.0	27.9
	Transit Planning & Research	116.0	8.0	12.4	4.2	90.0	0.0	1.4
	University Transportation research	6.0	0.0	0.0	6.0	0.0	0.0	0.0
	Job Access & Reverse Commute Grants	125.0	0.0	125.0	0.0	0.0	0.0	0.0
	Administrative Expenses	67.0	0.0	42.6	0.0	22.6	0.0	1.8
	FTA SUBTOTALS:	**6,747.0**	**8.0**	**4,399.9**	**10.2**	**2,280.6**	**0.0**	**48.4**
SLSDC	**St Lawrence Seaway Development Corp.**	13.3	0.0	13.3	0.0	0.0	0.0	0.0
	SLSDC SUBTOTALS:	**13.3**	**0.0**	**13.3**	**0.0**	**0.0**	**0.0**	**0.0**
RSPA	**Research and Special Programs**	41.9	30.0	2.2	0.0	0.0	1.9	7.9
	Pipeline Safety	53.8	31.2	0.0	0.0	22.5	0.0	0.0
	Emergency Preparedness Grants	14.3	14.3	0.0	0.0	0.0	0.0	0.0
	RSPA SUBTOTALS:	**110.2**	**75.5**	**2.2**	**0.0**	**22.5**	**1.9**	**7.9**
OIG	**Salaries and Expenses**	56	* See Notes.					Excluded
	OIG SUBTOTALS:							
STB	**Salaries and Expenses**	19	* See Notes.					Excluded
	STB SUBTOTALS:							
MARAD	**Maritime Security Program**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Operations and Training	89.0	0.0	6.9	10.3	2.6	69.2	0.0
	Ship Disposal	10.0	0.0	0.0	0.0	10.0	0.0	0.0
	Maritime Guaranteed Loan (Title XI)	4.0	0.0	0.0	4.0	0.0	0.0	0.0
	MARAD SUBTOTALS:	**103.0**	**0.0**	**6.9**	**14.3**	**12.6**	**69.2**	**0.0**
BTS	**Administration**	34.8	0.0	0.0	0.0	0.0	0.0	34.7
	BTS SUBTOTALS:	**34.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**34.7**
DEPARTMENT OF TRANSPORTATION TOTALS:		**59,560.7**	**7,256.6**	**42,343.5**	**95.2**	**6,641.5**	**1,857.5**	**490.5**
	Share of Total DOT Spending Authority:	100%	12.4%	72.2%	0.2%	11.3%	3.2%	0.8%

Notes:

* Program-related administrative costs and general overhead are *distributed proportionately*.
* Coast Guard Retired Pay is not attributed.
* The Inspector General and Surface Transportation Board are not included in totals since they are decisionally independent.

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Appendix III
DOT Program Evaluation

Performance measures show if intended outcomes are occurring and assess any trends. Program evaluation uses analytic techniques to assess the extent to which our programs are contributing to those outcomes and trends. As required by GPRA, the Department's 2000 - 2005 Strategic Plan included an initial list of new program evaluations planned for those fiscal years. This appendix provides a summary of DOT's plan for managing program evaluation within the Department, a report on the FY 2000 program evaluations listed in the Department's Strategic Plan, and an updated list of program evaluations being conducted in FY 2001.

Types of Program Evaluations: Program evaluation is an assessment, through objective measurement and systematic analysis, of the manner and extent to which programs achieve intended objectives.

The purpose of this program evaluation plan is to improve the analytic content of evaluations Department-wide in order to manage DOT programs for results. This plan generally focuses on the following types of program evaluation:

- *Impact Evaluations* use empirical data to compare measurable program outcomes with what would have happened in the absence of the program. These represent the highest standard of program evaluation, and are often the most difficult and expensive to construct and interpret.

- *Outcome Evaluations* assess the extent to which programs achieve their outcome oriented objectives. Outcome evaluations will use quantitative methods to assess program effectiveness, but fall short of the rigorous causal analysis of impact evaluations.

- *Process Evaluations* assess the extent to which a program is operating as intended. While a true process evaluation will use objective measurement and analysis, it falls short of assessing the causal links between intervention and outcome.

- *Cost-Benefit and Cost-Effectiveness Analyses* compare a program's outputs or outcomes with the costs to produce them. This type of analysis conforms with program evaluation when applied systematically to existing programs and when measurable outputs and outcomes are monetized.

Program evaluations are retrospective, quantitative assessments of existing programs. Forecasts of the impact of proposed or planned programs are considered part of policy analysis, and are not considered in this evaluation plan.

The aim of this plan is to identify areas of program evaluation for:

- Programs that represent significant DOT activities contributing to our strategic goals.

- Programs that are cross-modal in nature, or would benefit from evaluation that is reviewed outside an operating administration.

- Programs where Department-wide expertise can assist in evaluation planning and review.

Program Evaluation Management: DOT manages program evaluations through a Program Evaluation Council (PEC), comprised of representatives from each operating administration and select Secretarial Offices. The PEC reviews proposals for program evaluations, shares information across modes, and monitors ongoing evaluations. Enhancements to the PEC process will be considered in the coming year.

DOT staff, contractors, or academic institutions may do program evaluations. Internal departmental reviews are designed to ensure that the finished evaluations are useful regardless of how they are accomplished.

The Office of Budget and Programs and the Inspector General manages the schedule of program evaluations, fosters training and development of program evaluation skills, and reviews the quality of the program evaluation process. The Office of Budget and Programs works to ensure that the results of program evaluations are considered in the allocation of resources. The Office of the Inspector General continues its own program evaluations independent of this schedule, as deemed appropriate.

Summary of FY 2000 Program Evaluations:

Essential Air Service (Office of the Secretary)

The Essential Air Service (EAS) program, which was established when the domestic airline industry was deregulated in 1978, subsidizes air service to small communities. During FY 2000, the Department conducted an evaluation of the program. The major findings of the evaluation were:

- Carriers' operating costs have been rising rapidly. Major factors are (1) higher fuel costs due to the tripling of crude oil prices, (2) the industry-wide pilot shortage that translates into high commuter-pilot turnover and thus higher training costs, and (3) the trend of replacing 19-seat aircraft (the backbone of the EAS program) with 30-seat aircraft.

- Fewer carriers are interested in participating in the EAS program, thereby undermining the competitive bidding process used to ensure cost-effective carriers serve eligible small communities. Only three carriers account for service in 54 of the 83 subsidized markets in the 48 contiguous States, Hawaii, and Puerto Rico.

- A new requirement that FAA certificate all airports, except those in Alaska, that serve air carriers operating planes designed for more than 9 passengers will likely result in increased costs to airports served by EAS carriers. It is anticipated that those increased costs will be passed on to the air carriers.

All of these factors contribute – either directly or indirectly -- to increased EAS subsidies, as the subsidy makes up the shortfall between expenses and revenues.

EAS is facing difficult challenges for which it is not well positioned to respond. Program eligibility continues to be based primarily on whether communities received certificated service prior to deregulation in 1978, a criterion that no longer reflects current marketplace realities. Certain provisions of AIR-21 have reduced the Department's flexibility at a time when it is all the more critical to have more flexibility, not less.

Ultimately, EAS reform will need to be looked at. The Administration believes the program should live within the current taxpayer-supported funding level and will consider proposing within the FY 2002 budget reasonable changes needed to improve the program.

International Aviation Liberalization: Transatlantic Deregulation and the Alliance Network Effect (Office of the Secretary)

In April 1995, the Department of Transportation developed the United States International Air Transportation Policy Statement that set forth the goals, objectives and plan of action for the Nation's international air transportation policy. This Policy Statement reiterated the U.S. commitment to market liberalization and reliance on competitive market forces to determine the variety, quality, and price of international air service.

In December 1999, the Department released its first evaluation of the effects of multinational alliances. The report, International Aviation Developments: Global Deregulation Takes Off, provided a broad picture of the effects of multinational alliance development in transatlantic markets, including (1) improved and more competitive service as alliances expand and overlap; and (2) consumer benefits in terms of service improvements and price reductions.

In October 2000, the Department released a second, follow-on evaluation examining further developments in transatlantic markets by updating and expanding information presented in the first study. This latest evaluation compared conditions in 1999 with 1996 (when the alliances took effect) and found that:

- As transatlantic deregulation unfolds, competition intensifies and provides consumers enormous price benefits. Overall, average fares to open-skies countries in 1999 declined in nominal terms by 20 percent compared with 1996. For connecting markets beyond European gateways, the decline approached 25 percent.

- Deregulation is at the heart of transatlantic traffic growth. Overall U.S.-Europe passenger traffic rose over 30 percent during 1996-1999 compared to less than 17 percent growth during 1993-1995. Moreover, traffic growth among the strategic alliance carriers was much more dramatic than growth among non-alliance carriers.

- Alliance-based networks are the principal driving force behind transatlantic price reductions and traffic gains. Alliances are providing improved service to more passengers in more markets and, as they each expand, the competitive overlap increases.

- A major component of alliance traffic growth stems from expanding the reach of networks. By linking large numbers of cities on each side of the Atlantic with broad-scale networks in their respective regions, thousands of city-pair markets are served by each alliance. The strong growth in beyond European gateway markets reflects the further development of European hubs, greatly assisted by traffic flows from the United States.

- Traffic on both alliance and non-alliance carriers has increased dramatically, demonstrating that deregulation and airline alliances have not simply reallocated traffic among carriers but have stimulated additional demand. Increased supply (capacity) is a critically important component of consumer benefits in deregulated markets.

- International airline alliances have improved service in historically under-served regions of the world and, as a result, have stimulated additional demand for air transportation in those markets. Greatly improved service by the European alliance partners from their domestic hubs to cities in Africa, the Middle East, and the Far East is attributable in large measure to the traffic flows from the United States as a consequence of their alliances. Moreover, price reductions ranging from 29 percent to 35 percent during 1992-1999 occurred simultaneously with the large gains in traffic.

Elimination of Substandard Vessels -- Port State Control (Coast Guard)

In 1994, the Coast Guard was directed to develop a program to eliminate substandard foreign-flag vessels (all vessel types) from the Nation's waters. The Coast Guard responded by expanding Port State Control activities to all types of foreign vessels. "Port State Control" is the exercise by a nation of its authority to control the movement of foreign-flag ships in its territorial waters. The goal of the Port State Control program is to eliminate substandard (substantially non-compliant) ships from operating in U.S. waters. To this end, the U.S. Coast Guard boards foreign-flag vessels to assess safety compliance levels. When a ship is found to be non-compliant, the United States takes action to bring the ship back into compliance, with the most severe form of intervention being detention of the ship until the deficiencies are rectified.

This program evaluation assesses several aspects of the Port State Control program: (1) its effectiveness in eliminating substandard foreign-flagged vessels from U.S. waters (and associated reductions in deaths, injuries, damage to property and pollution); (2) the effectiveness of the policy and procedures (including control actions) underlying the program; and (3) the adequacy of resources to conduct the program. This program evaluation was conducted using trend analysis of available data and surveys of customers/stakeholders/employees. The program evaluation reviewed applicable requirements and assessed industry trends.

The program evaluation concluded that the Port State Control program has been successful in contributing to the goal of eliminating substandard ships from operating in U.S. waters. Preliminary analysis indicates that the number of substandard vessels operating in U.S. waters has decreased. Furthermore, the number of deaths, injuries and oil spills attributable to foreign ship operations has also decreased.

Until 2000, the volume of oil spilled in U.S. waters by foreign vessels had been trending downward despite an approximately 20% increase in foreign trade. In addition, surveys revealed that the overall performance of the Port State Control program was favorable; however, some improvements could be made in the areas of policy, procedures, resources, and workforce issues.

Personal Flotation Devices (PFD) Wear Rates and Wearability (Coast Guard)

The U.S. Coast Guard's Recreational Boating Safety (RBS) Program works with State boating offices and other boating safety organizations to minimize the loss of life, personal injury, property damage and environmental impact associated with the use of recreational boats, through preventive means, in order to maximize safe use and enjoyment of the U.S. waterways by the public. Because drowning is the leading cause of recreational boater deaths, increased usage of PFDs would reduce the number of deaths attributable to drowning. Analysis indicates that wearing PFDs could save the lives of approximately 500 recreational boaters each year.

This program evaluation is part of a multi-year effort to determine the impact of the Coast Guard's Recreational Boating Safety (RBS) Program's efforts to increase PFD wear rates among recreational boaters, thereby contributing to achievement of the Department's performance goal of reducing recreational boating fatalities. Up-to-date information on PFD wear rates was collected in FY 1999 and compared with baseline information gathered in fiscal year 1998. An observational survey was conducted to determine the number of recreational boaters wearing a PFD while actively engaged in recreational boating activity. The national survey was based on predetermined observation sites in 31 representative States.

The evaluation concluded that the program outcome of PFD usage in FY 1999 remained essentially unchanged from FY 1998 at an adjusted average of approximately 23 percent. The evaluation showed that some States (most notably Utah, Kansas, and Alabama) had significantly higher rates of PFD use than some other States. The evaluation also demonstrated the success of laws mandating PFD use on personal watercraft (e.g., jet skis). In addition, other data in the report indicate that boaters make conscious choices mainly based on three factors: their perceived risk of falling overboard, their perception of the severity of the consequences of falling overboard, and their awareness of existing PFD wear regulations.

Navigation Aid Mix Systems Analysis (Coast Guard)

Recent technological developments in marine navigation, such as the differential global positioning system (GPS), electronic charting systems, and automatic identification systems, will provide substantially greater service than was previously available. The interaction of technologies creates new design and human factor issues, and both the National Transportation Safety Board and the Navigation Safety Advisory Committee have raised concerns that the improper integration and use of advanced navigation equipment may actually increase risk.

The U.S. Coast Guard is conducting a program evaluation on the use of electronic, audio, visual, and other aids to navigation. A user requirements survey and sample data collection were completed in FY 2000. Review of the results indicated the need for a larger, less self-selected sample to develop statistically useful profiles of users' requirements for navigational aids. New data collection was completed in November 2000, with a much larger, more representative number of respondents. These new data will be used to complete the program evaluation during FY 2001.

Civil Aviation Security Screening (FAA)

The FAA constantly monitors screening effectiveness through regularly scheduled and ad hoc testing, and assesses the results on a quarterly basis, at a minimum. While the FAA had committed to conduct a formal program evaluation of civil aviation security screening in FY 2000, the evaluation was deferred given that independent evaluations of aviation security screening were already being conducted by outside parties.

- The General Accounting Office (GAO) completed a longitudinal, cross-sectional evaluation of screener performance (*Long-Standing Problems Impair Airport Screeners' Performance*, June 2000). GAO found that the airport security screening workforce continues to be low-paid and has a high turnover rate, and that its performance needs improvement. The report supported the actions that the FAA had already begun, including issuing a regulation to certify the companies that perform screening at airports. Under the regulation, certified companies will be required to meet performance standards designed to increase the professionalism and effectiveness of airport security screeners. The Airport Security Improvement Act (ASIA) of 2000 accelerated the deadline for issuance of the rule to May 31, 2001.

  GAO also recommended that, for purposes of the Government Performance and Results Act (GPRA), the FAA report tests of the detection of standard test objects in carry-on bags separately from more difficult improvised explosive devices (IED) test objects. Although the GPRA goal continues to be expressed as a single goal, test results are separately compiled for checked bags, walk-through-metal-detector, and both types of carry-on bags test. These data are sensitive security information and are available on a need-to-know basis to appropriate parties.

- The DOT Office of Inspector General (OIG) completed an audit of aviation security in March 2000 that included recommendations on implementing and deploying technology that enhances screening performance. The audit found that the FAA met the demands for immediate equipment deployment prompted by the 1997 White House Commission on Aviation Safety and Security, but the equipment needed increased and more effective use. ASIA 2000 supports the OIG recommendation to increase the use of explosives detection systems (EDS) for screening checked baggage. The FAA is developing procedures to increase utilization at sites where it will raise deterrence while maintaining the protection of civil liberties.

- The National Research Council's November 1999 report on *Assessment of Technologies Deployed to Improve Aviation Security* included recommendations on EDS certification testing, evaluation of trace explosives detection devices, and the development of an aviation security system architecture and deployment plan.

Acquisition Reform (FAA)

This evaluation was scheduled for 2000, but was completed in FY 1999. A summary of the results was provided in the DOT Performance Plan (FY 2001) and Report (FY 1999).

Aircraft Noise Exposure (FAA)

In lieu of evaluating initiatives to reduce restrictions constraining the National Airspace System (as listed in the DOT Strategic Plan), the FAA evaluated the impact of the phase-out of Stage 2 airplanes in reducing aviation noise.

The Airport Noise and Capacity Act of 1990 (ANCA) established a uniform policy at the national level to reduce aviation noise by expediting the phase-out of Stage 2 airplanes and the transition to an all Stage 3 fleet, thereby reducing the number of people exposed to significant levels of aircraft noise (defined as a Day Night Level of 65 decibels or more).

To identify the benefits of the phase-out of Stage 2 aircraft regulation, the FAA developed the Nationwide Airport Noise Impact Model (NANIM), which calculated the regional and national totals of the number of people, the land area, and the number of housing units exposed to DNL 65 dB or higher. The FAA model predicted that the phase-out would reduce the number of people exposed to significant levels of aircraft noise from over 3 million in 1985 to 600,000 by end of 1999. Based on the model results, the DOT performance plan established a goal to reduce the number of people exposed to significant noise levels to 680,000 by 1999, 600,000 by 2000, and 600,000 by 2001.

The FAA monitored domestic operators' progress against their stated ANCA compliance plans and contacted foreign operators and foreign civil aviation officials to ensure that they were aware of and pre-

pared to meet the statutory compliance date. All operators met or exceeded the interim compliance requirements. By 1999, all Stage 2 airplanes had been modified to meet Stage 3 noise levels or were replaced by new Stage 3 airplanes designed with quiet technology by the end of 1999. Therefore, the phase-out occurred on schedule and is 100 percent complete.

In addition, the FAA developed a new, more accurate model that uses actual data to assess aircraft noise exposure internationally by collecting noise analysis databases for a large number of the world's airports. The Model for Assessing Global Exposure from Noise of Transport Airplanes (MAGENTA) was developed in conjunction with the Committee on Aviation Environmental Protection (CAEP) under the International Civil Aviation Organization (ICAO) and is used to assess worldwide trends that would occur as the result of more stringent, different land-use planning initiatives and operational procedures. The model calculated that, as a result of the phase-out of the older, noisier Stage 2 airplanes, the number of people exposed to significant levels of aircraft noise in 2000 is around 448,000 nationwide.

The FAA continues to fund noise reduction activities such as the soundproofing of residences and buildings used for educational or medical purposes in the vicinity of airports, the purchase of buffer zones around airports, and noise reduction planning. The benefits of federally funded mitigation, such as described above, are not accounted for in the current estimation of the number of people exposed to aircraft noise. Future development of the methodology will attempt to quantify the gains (reduction in people exposed) due to federally sponsored mitigation actions. The FAA will also continue to evaluate and validate the methodologies used to assess aircraft noise exposure.

Highway Cost Allocation (FHWA)

In 1997, the Department transmitted a Federal Highway Cost Allocation Study to Congress, the first such study since 1982. An important purpose of that study was to evaluate the equity of the Federal highway user fees in terms of whether different vehicle classes pay fees commensurate with infrastructure and related costs caused by their use of the highway system. The Department committed to conducting periodic updates of that study to reassess user fee equity.

In 2000, the Department released an Addendum to the 1997 Federal Highway Cost Allocation Study. That Addendum updated the evaluation of highway user fee equity and extended the analysis to examine air pollution costs attributable to different vehicle classes. Major findings of that update include:

- Programmatic changes enacted in the Transportation Equity Act for the 21st Century had no significant effect on the cost responsibility of different vehicles. The overall mix of program expenditures was expected to be similar to the distribution under ISTEA, and thus the relative cost responsibility of different vehicle classes was estimated to be the same.

- The Taxpayer Relief Act of 1997 directed that proceeds of the 4.3 cents per gallon Federal tax on highway motor fuels that had been dedicated for deficit reduction should be deposited in the Highway Trust Fund beginning October 1, 1997, and be available for transportation purposes. This made the 4.3 cents per gallon tax a highway user fee that should be included with other fuel tax revenues in highway cost allocation. That change affects the relative equity of the Federal highway user fee structure. The share of total Federal highway user revenues paid by heavy trucks declines, thereby reducing the share of highway cost responsibility that heavy trucks pay through user fees.

- In the 1997 Highway Cost Allocation Study, combination trucks were found, on average, to pay 90 percent of their Federal highway cost responsibility through user fees, but with changes in the fuel tax, they now pay 80 percent of their cost responsibility. The heaviest combinations, those over 80,000 pounds, pay half of their cost responsibility.

- The 1997 Highway Cost Allocation Study discussed four main costs of highway use not borne directly by transportation agencies -- crash costs, air pollution, congestion, and noise. Based on mid-range cost estimates, and including air pollution costs estimated in the 2000 Addendum, crash costs are the largest of those costs, accounting for about 75 percent of total costs for those four impacts. Congestion costs represent the next highest cost (14%), followed by air pollution (9%)

and finally noise (1%). Most crash and congestion costs are borne directly by motorists, but impacts of air pollution and noise are not directly tied to an individual's use of the highway.

State Initiatives to Reduce Fatal Truck Crashes (FMCSA)

The *Top Ten States* project, begun in 1996, identified 10 States where nearly one-half of all large truck-involved fatal crashes occurred. Nine of the Top Ten States--California, Florida, Michigan, Illinois, New York, North Carolina, Ohio, Pennsylvania, and Texas--were provided with special Motor Carrier Safety Assistance Program (MCSAP) grants to develop innovative crash reduction measures. (A tenth State, Georgia, opted out of the project due to Olympic-related workload issues.) The ultimate goal of the project was to identify successful, innovative approaches to reducing truck-related crashes and promote their use. Special initiatives implemented by the nine States fell into three categories:

- **Enforcement:** Most States implemented some form of "corridor" enforcement and/or increased inspections aimed either at vehicle code violations, driver behavior, or both.
- **Data:** Several States improved data and analysis of large truck crashes and designed targeted enforcement programs.
- **Education:** Some States improved public education efforts aimed at large truck safety (e.g., No-Zone, Share the Road) or provided additional training for CMV operators.

The first phase of the project assessed the effectiveness of the initiatives in the nine States. The major conclusions were:

- The States were successful in uncovering new enforcement, data collection and analysis, and education techniques that can be applied nationwide to help improve large truck safety.
- Given the total funding of $2.5 million over two years, reducing fatal truck-related crashes by 25 percent (the initial program goal) could not be reached.
- Methods of "corridor" enforcement differed widely. New cooperative agreements brought a greater level of State and local involvement and facilitated States accomplishing larger, more ambitious programs in the future.
- State access to reliable crash data and data analysis varied. Only a handful of States had recently conducted an in-house analysis of their commercial motor vehicle crash experience. Several others had engaged the assistance of outside consultants, typically university-based researchers, to obtain information on their State crash experience. Promoting the use of in-house or consultant-based research teams could have a long-lasting effect on the quality and effectiveness of State programs.
- Education has longer-term effects. Innovative efforts – such as training local police officers how to stop trucks for traffic violations – need to be promoted.

The second phase of the program involved a follow-up study of two States – Michigan and New York – that used their routine MCSAP funding to continue the initiatives. They targeted MCSAP resources to problem areas identified through specific data analysis.

- Michigan's Fatal Accident Complaint Team (FACT) Program: FACT collected detailed information on every fatal truck crash in Michigan and submitted it to the University of Michigan Transportation Research Institute (UMTRI) for analysis. The resulting reports present fatal truck crash facts in great detail. Michigan has used the information to improve problem identification and develop better countermeasures.
- Increased Level 3 Inspection Training for New York State Troopers: Intensive training increased the number of Level 3 (driver only) roadside inspections and made troopers more aware of laws and procedures for stopping commercial vehicles.
- Detailed Large Truck Crash Data Analysis in New York: The Institute for Traffic Safety Management and Research (ITSMR) at the State University of New York conducted an analysis of crash data that directly affected the design and implementation of the State's commercial vehicle safety programs.

Major recommendations of the evaluation include:

- FMCSA should promote the use of university- or consultant-based research teams to analyze state-

wide large truck crash data. This could have a long lasting affect on the quality and effectiveness of State's truck safety programs.
- FMCSA, through its Service Centers, should consider assisting States in developing contractual relationships with research organizations to assist those States that do not have ready access to a local, university-based research.
- FMCSA should market the results of the initiatives to its State partners.

Safe Communities Evaluation of the Safe Communities Demonstration Projects (NHTSA)

The Safe Communities Injury Control Initiative funds innovative partnerships to prevent and control transportation-related fatalities and injuries. During FY 2000, the National Highway Traffic Safety Administration (NHTSA) conducted an evaluation of four Safe Community demonstration projects.

To be designated a Safe Community, a community must: (1) use data from multiple sources to define its injury problem and target resources; (2) build partnerships across the community, including health, education, and enforcement systems, and the private sector and government; (3) encourage citizen participation as an integral component for identifying and implementing effective injury prevention measures; and (4) establish an integrated and comprehensive injury control. The Safe Communities approach enables communities to examine their data to determine the most significant injury issues and develop and implement community-based programs to reduce the occurrence of the target injury types.

NHTSA awarded a total of four grants under this program. In 1996, the Greater Dallas Medical Center in Dallas, Texas and East Carolina University in Greenville, North Carolina each received a three-year grant. Three-year grants were also provided to the Providence Medical Center in Anchorage, Alaska and to Rhode Island Hospital in Providence, Rhode Island in 1997. Each community completed a one-year planning phase, during which it collected and analyzed data, convened a coalition, prioritized the injury problems identified, and selected countermeasures to address the problems. The second year involved program development and implementation. The third year continued program development, implementation, and included outcome evaluation.

- In the Dallas, Texas project, a child safety seat loaner program was established in the Northwest Oak Cliff section of Greater Dallas. The program placed more than 2,000 child safety seats, and use of safety seats increased from 23 percent in the Spring of 1997 to 65 percent in the Spring of 1999.

- In the Anchorage, Alaska project, car seat instruction programs improved correct child safety seat usage by an average of 20 percent. Evaluations are ongoing for a number of other funded activities, including the "Take the Lead" high school campaign against drunk driving and a "Red Light Running" project.

- In the Providence, Rhode Island project, a bicycle safety program was conducted at an elementary school that included a 15-minute presentation on bike safety and a properly fitted helmet for each student. Teachers commented on seeing many more students using helmets, but students did not show significant improvement in understanding the bicycle rules of the road, perhaps due to the brevity of the presentation. Other project activities, such as child safety seat programs, are still being evaluated.

- In the Pitt County, North Carolina project, the major focus was on bicycle safety and driver improvement. The bicycle safety program has distributed over 600 bicycle helmets and has facilitated passage of bike helmet ordinances requiring children up to age 15 to wear helmets when riding on public roads. A Safe Driving School has been established and is providing safe driving instruction to speeders who are cited for speeds from 15 to 25 miles per hour over the speed limit. Pre- and post-intervention evaluations are planned for both projects.

Maritime Security Program (MSP) and Voluntary Intermodal Sealift (VISA) Agreement (MARAD)

The purpose of the Maritime Security Program (MSP) and the Voluntary Intermodal Sealift Agreement (VISA) program is to assure that DOD has sufficient access to critical commercial sustainment sealift capability for national security contingency requirements. During FY 2000, MARAD evaluated the impact of the MSP and VISA programs in achieving the DOT goal of providing U.S.-flag sealift resources capable of meeting national defense requirements. MARAD measured defense requirements based upon DOD analyses available at the time and prepared a draft report based on those requirements. DOD has since updated its current and future defense requirements, and MARAD is revising the draft report to account for the updated requirements. A final report will be completed in FY 2001.

Federally Funded Maritime Education and Training (MARAD)

During FY 2000, MARAD continued its evaluation of the impact of federally funded officer education programs on the achievement of DOT national security goals. MARAD found that data needed to do the evaluation were incomplete and developed an alternative data collection approach. Specifically, a random sample of currently licensed mariners is now being surveyed, in conjunction with the Bureau of Transportation Statistics, to assess the impact of federally funded officer education programs as well as provide information on mariner availability for sealift employment during national defense emergencies. Results of this survey will be analyzed, and the program evaluation will be completed in FY 2001.

Revised Schedule for FY 2001 Program Evaluations

The following table lists DOT program evaluations that will be conducted in fiscal year 2001. The table presents the titles or subject matter of the evaluations, the strategic goal or goals they support, and the methodology and scope of the studies.

FY 2001 Program Evaluations

Program Evaluation	Strategic Goals					OE	Methodology	Scope	FY Complete
	S	M	EG	E	NS				
Maritime Security Program (MSP) and Volunteer Intermodal Sealift (VISA) Agreement (MARAD)					X		Combination	Evaluate the impact of MSP/VISA in achieving national security goal	2001
Federally Funded Maritime Education and Training (MARAD)					X		Combination	Study the impact of the federally funded education (State and Federal schools) on the availability of mariners for defense mobility.	2001

Legend

S Safety
M Mobility
EG Economic Growth
E Environment
NS National Security
OE Organizational Excellence

Methodology

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 or other statistical analysis
Combination – Use of two or more complementary analytic techniques
Management Study – Process evaluation using objective measurement and analysis
Cost Benefit – Comparison of a program's outputs or outcomes with the costs to produce them

FY 2001 Program Evaluations *(continued)*

Program Evaluation	Strategic Goals					OE	Methodology	Scope	FY Complete
	S	M	EG	E	NS				
Project Kimball (USCG)						X	Management Study	Evaluate operations, resources, staffing of groups, shore stations, and aids to navigation teams to improve performance	2001
Readiness Tracking System (USCG)						X	Management Study	Evaluate overall operational readiness; recommendations for data system to track readiness	2001 (Phase I)
Strategy for Migrant Interdiction Program (USCG)					X		Management Study	Evaluate inter-agency strategy for migrant interdiction	2001
Drug Interdiction Deterrence Study (USCG)					X		Combination	Evaluate deterrent value of active presence of USCG inter-diction forces	2001
Navigation Aid Mix System Analysis (USCG)	X	X	X				Combination	Evaluate the use of electronic, audio, visual, and other aids to navigation	2001
Selected Safety Initiative Evaluation (FHWA)	X						Combination	Evaluate highway safety improve-ment programs	2001
Vehicle Crash Causation Study (FMCSA)	X						Combination	Determine causal and contributing factors for crashes involving commercial motor vehicles	2001 (Interim Report on Pilot)
Switching Operations Facility Analysis (FRA)	X						Combination	Evaluate recommenda-tions to the railroad industry for reducing railroad employee fatalities	2001

FY2001 Program Evaluations *(continued)*									
Program Evaluation	**Strategic Goals**					**OE**	**Methodology**	**Scope**	**FY Complete**
	S	**M**	**EG**	**E**	**NS**				
Runway Safety Management System (FAA)	X					X	Management Study	Assess the efficiency and effectiveness of management systems and processes used by the FAA Runway Safety Program.	2001
Accuracy and Timeliness of Procurement System (FAA)						X	Combination	Determine the accuracy and timeliness of the data in the FAA ACQUIRE procurement system.	2001
Implementation of Core Compensation Plan (FAA)						X	Management Study	Examine the implementation of the pilot of FAA's Core Compensation Plan.	2001
Alternative Dispute Resolution (ADR) Process Evaluation (Intermodal)						X	Management Study	Assess ADR processes with an emphasis on the use of ADR to prevent and resolve allegations of discrimination.	2001
Safety Data Analysis (BTS)	X					X	Management Study	Evaluate data needs in comparison to existing data collection and analytical processes	2001