Annual Attainment Report on Transportation System

Performance

2004

Progress in Achieving MTP Goals & Objectives

Maryland Department of Transportation

Robert L. Ehrlich, Jr. Governor

Robert L. Flanagan, Secretary of Transportation

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Executive Summary

This 2004 Report is the third Annual Attainment Report on Transportation System Performance for the Maryland Department of Transportation. MDOT holds a unique position among state transportation departments. It was created in 1971 when 13 different State agencies were consolidated into a single department under the Secretary of Transportation. The Secretary's Office develops and sets the State's overall transportation policy and oversees the five modal administrations: the Maryland Aviation Administration (MAA), the Maryland Port Administration (MPA), the Maryland Transit Administration (MTA), the Motor Vehicle Administration (MVA) and the State Highway Administration (SHA). In addition, the Maryland Transportation Authority (MdTA) is affiliated with the Department and the Secretary serves as its Chairman.

The purpose of this Report is to evaluate the progress of MDOT, the five modal administrations and the Maryland Transportation Authority in meeting the goals and objectives in the Maryland Transportation Plan (MTP). The 2004 Annual Attainment Report is substantially different than the two previous versions, reflecting the recently revised and updated MTP. The number of goals in the new MTP has been reduced from ten to four, and this new Attainment Report presents approximately 30 performance measures, down from more than 60 in previous years. These changes reflect a desire by the new Administration to focus on MDOT's core mission – to facilitate the safe and efficient movement of people and goods across all transportation modes.

MDOT continues to face many challenges as it seeks to meet citizens' needs and the ever increasing demands for its transportation services and facilities. In many cases, MDOT is successfully meeting the goals of the State's transportation plan, while in some instances, performance is less than desired. MDOT will continue to proactively identify programs, policies and infrastructure investments that will enhance the performance of the State's transportation system. Performance highlights under each of the four MTP goals are outlined below.

EFFICIENCY - MDOT is successfully maintaining the condition of the existing transportation system despite increasing demands for travel. Almost a hundred percent of the State's bridges meet federal structural standards, the quality of pavement condition has remained steady, and the State's port channels have stayed open and free from delay. Challenges remain as constrained budgets, continued popu-

lation growth and new security related requirements have resulted in increases in wait times for MVA customers and some decreases in performance for MTA bus routes. To address these challenges, MDOT is focused on making efficient use of the existing transportation system. MTA has improved the on-time performance of transit services. New technology, such as SHA's incident management program, has reduced delays on the State's highways.

MOBILITY - MDOT continues to face the challenge of escalating travel in the State. Congestion levels on the State's roadways are increasing and performance targets seek to manage this change. MDOT is actively seeking new ways to improve mobility through technology (e.g., E-ZPass), alternative means of travel (e.g., bus rapid transit), and key system expansion opportunities. For other modes of transportation, MDOT has managed to accommodate travel growth while still minimizing delays for travelers. As travel demand continues to increase with an expanding local economy and population growth, MDOT will seek cost-effective ways to protect and enhance the mobility of Maryland citizens.

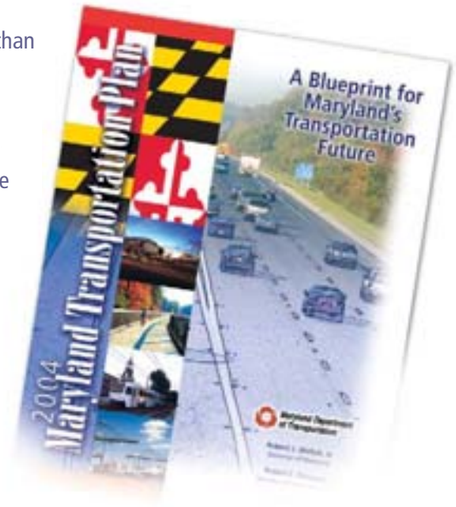
SAFETY AND SECURITY - Providing safe and secure travel for Maryland residents and visitors is of vital importance. MDOT has numerous programs that target the safety of its transportation system, from roadway improvements to outreach and education programs. These efforts are, in part, contributing to a reduction in the number of fatalities and injuries on the State's highway and transit systems. After September 11, 2001, threats to the personal security of travelers and transportation assets themselves have received heightened attention and MDOT is actively addressing the increasing security requirements, particularly at its airports and port facilities. To date, Maryland's airport and port facilities are meeting all federal regulations. MDOT will continue to actively target programs and policies that improve the safety and security of its citizens as they travel on the State's transportation system.

PRODUCTIVITY AND QUALITY - MDOT values its role as a transportation provider and actively communicates with citizens through surveys to measure the effectiveness of services delivered. At the same time, MDOT is using cost-effectiveness measures to evaluate its success in taking business-like approaches to make efficient use of limited resources. In many cases, efforts to control expenditures are reflected in decreased costs per service provided, such as a reduction in maintenance costs per lane mile and in the cost per transaction at MVA branches. In other instances, such as with MTA public transportation services, costs of service delivery per passenger have remained relatively steady. MTA is seeking to actively reduce these costs in future years by tracking performance. Consistent with the goal of productivity and quality, MDOT also continues to meet its commitment to the environment by going beyond the requirements of environmental mitigation and continues to support programs that can reduce transportation-related emissions that effect air quality.

The development and review of performance measures is an ongoing effort that will continue to evolve. Performance measures provide a status report on the condition of transportation in the State, and highlight areas with a potential need for improvement. Future versions of this annual report will show MDOT, elected officials, and the general public whether new policies, programs and investments are ultimately effective in improving the State's transportation services and facilities.

Introduction

The purpose of this third Annual Attainment Report on Transportation System Performance is to present the performance measures that the Maryland Department of Transportation (MDOT), and the Maryland Transportation Authority (MdTA) are using to evaluate progress toward meeting the goals and objectives of the Maryland Transportation Plan (MTP). The Attainment Report provides MDOT management and the public with straightforward information about the performance of the transportation system and the Department's effectiveness in achieving the goals of the MTP. Performance measures can help identify policies or programs that need additional emphasis and can gauge the successes of the Department, the modal administrations, and the Authority.



The 2004 Annual Attainment Report is substantially different than the two previous versions, reflecting the recently revised and updated MTP. The number of goals in the new MTP has been reduced from ten to four, and this new Attainment Report presents approximately 30 performance measures, down from more than 60 in previous years. These changes reflect a desire by the new Administration to focus on MDOT's core mission. However, where possible, measures from previous reports were kept to create continuity between the past and present documents.

Legal Context

The legislative requirements for the monitoring and reporting of performance measures were established by the 2000 Joint Chairmen's Report and the 2000 Transportation Performance Act (Senate Bill 731). Senate Bill 731 revised the requirements for the Maryland Transportation Plan, created a requirement for an Annual Attainment Report on Transportation System Performance, and created a Governor's Advisory Committee to guide the development of the Annual Attainment Report. While the bill provides the legal mandate for reporting on performance measures, the Attainment Report should also be viewed in relationship to other MDOT documents and programs: the Consolidated Transportation Program, the Maryland Transportation Plan, and the Managing for Results Initiative.

The **Maryland Transportation Plan (MTP)** is MDOT's long-range transportation policy plan and includes the vision, goals and objectives that provide the policy framework and context for Maryland's transportation programs and investments. The MTP sets Department policy for the 20-year period and is updated every three years.

The **Consolidated Transportation Program (CTP)** displays the budgetary resources and schedules for transportation projects that span all modal administrations. The CTP covers a span of six years and presents detailed listings and descriptions of the capital projects that are proposed for construction or for development and evaluation. The CTP is updated annually to reflect changes in project priorities and financial commitments. Together, the MTP and the CTP form the State Report on Transportation.

In accord with State Law, the Annual Attainment Report is presented as a companion document to the annual State Report on Transportation. The Attainment Report must be submitted to the Governor and General Assembly annually before they approve the MTP and CTP. The Attainment Report documents MDOT's progress toward achieving its goals and objectives based on a series of performance measures.

Managing for Results (MFR) is a statewide strategic planning approach to management that incorporates program performance measures. All State agencies, including MDOT administrations, must submit an MFR document that describes the agency mission, vision, key goals and performance measures, and strategies for each program along with their annual budget requests. An agency MFR submission covers the current and most recent budget cycle, and includes two years of estimated performance targets. A subset of MFR measures, which report on broad system characteristics, overlaps with the measures in the Attainment Report. Generally, however, MFR measures relate to agency operations and reflect the quality of program management.

Organization of the Attainment Report

This report is organized as follows:

- Background - The first section provides general background information on MDOT, with details on the Maryland transportation system and on the changing demands for MDOT services.
- Performance Measures by MTP Goal - The second section provides the detailed performance measures, organized under each of the MTP goals for MDOT, its five modal administrations, and the Maryland Transportation Authority. The goals and supporting objectives are taken directly from the Maryland Transportation Plan. Performance measures assess MDOT's progress in meeting these MTP goals and objectives. A number of performance measures address the cost-effectiveness of MDOT programs. Specific targets are established for performance within six and 20 years, corresponding to the time frames of the CTP and the MTP. The targets are established based on policy decisions, strategic goals, and historical data that provides a reasonable basis for predicting future performance.
- Travel Demand Management and Induced Travel - The third section addresses Travel Demand Management (TDM) and induced travel to the extent practicable to meet the requirements of the authorizing legislation.
- Appendix - The Appendix includes a complete list of performance measures with a detailed explanation of each measure and definitions of all terms. The measures that were used in previous reports are also identified.

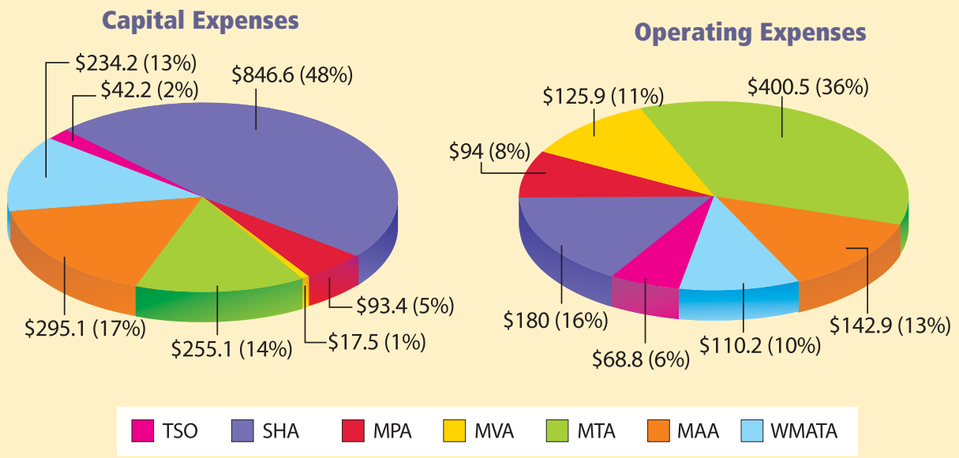
Background

The Maryland Department of Transportation has responsibilities for capital investments, operations and planning that reach across all modes of transportation, which is unique among state departments of transportation. The MDOT Secretary's Office develops and sets the State's overall transportation policy and oversees the five modal administrations: the Maryland Aviation Administration (MAA), the Maryland Port Administration (MPA), the Maryland Transit Administration (MTA), the Motor Vehicle Administration (MVA), and the State Highway Administration (SHA). In addition, the Maryland Transportation Authority (MdTA) is affiliated with the Department, and the Secretary serves as its Chairman.

MDOT's Funding Framework

MDOT was one of the first state transportation departments in the country funded by an integrated Transportation Trust Fund. This is a dedicated source of funding that supports all of MDOT's activities, including debt service, maintenance, operations, administration, and capital investment. Funding for capital and operating activities is allocated to the various modal administrations, MdTA and the Transportation Secretary's Office (TSO). The capital and operating budget figures detail funding for the Washington Metropolitan Area Transit Authority (WMATA), as well as the TSO and the modal administrations. In the current fiscal year (2004), the SHA accounts for nearly half of the almost $1.8 billion capital budget. Together, the WMATA and MTA account for approximately half the $1.1 billion operating budget. Maryland is one of only two states that fully supports the non-federal operating subsidy for the urban transit systems (WMATA and MTA).

Fiscal Year 2004 Share of Expenses by Administration and Agency ($ in millions)



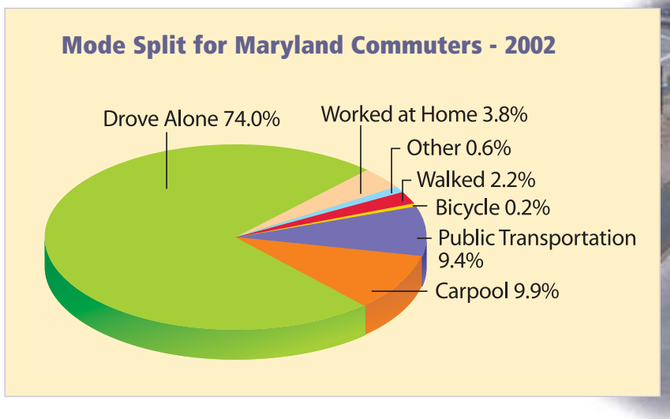
Although traditional Transportation Trust Fund and federal aid sources are used to finance the majority of MDOT's capital programs and operations, "innovative funding" mechanisms also provide some revenues. MDOT has utilized innovative financing arrangements with MdTA comprised of grants, loans, bonds, leases, and investments. Since 1980, MdTA has provided funding assistance totaling $1.01 billion to finance cooperative capital construction projects with MDOT including the expansion of Baltimore/Washington International Airport (BWI) facilities, improvements to port facilities, and light rail projects. Other examples include the passenger facilities charges applied to airline passenger tickets and the customer facilities charges applied to rental cars at BWI.

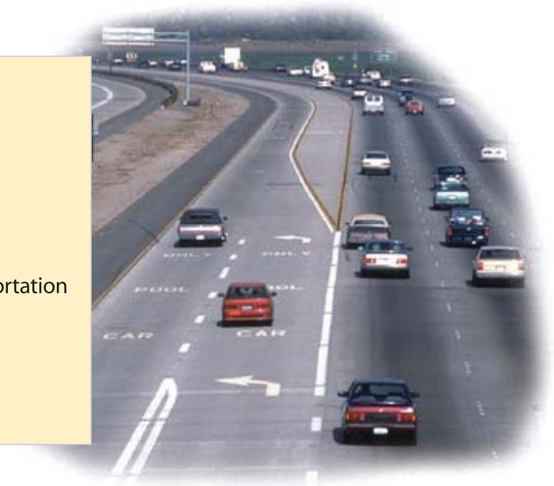
Trends in Usage of MDOT's Facilities and Services

Managing the State's transportation system is challenging given the trends of steadily increasing user demands. MDOT is responsible for more than 14,000 lane-miles of roadways, 20 major port terminals, two large urban transit systems, a commuter rail system, an international airport, and the State's motor vehicle service centers. Recent changes in demand for these facilities and services provides a context for the performance measures.

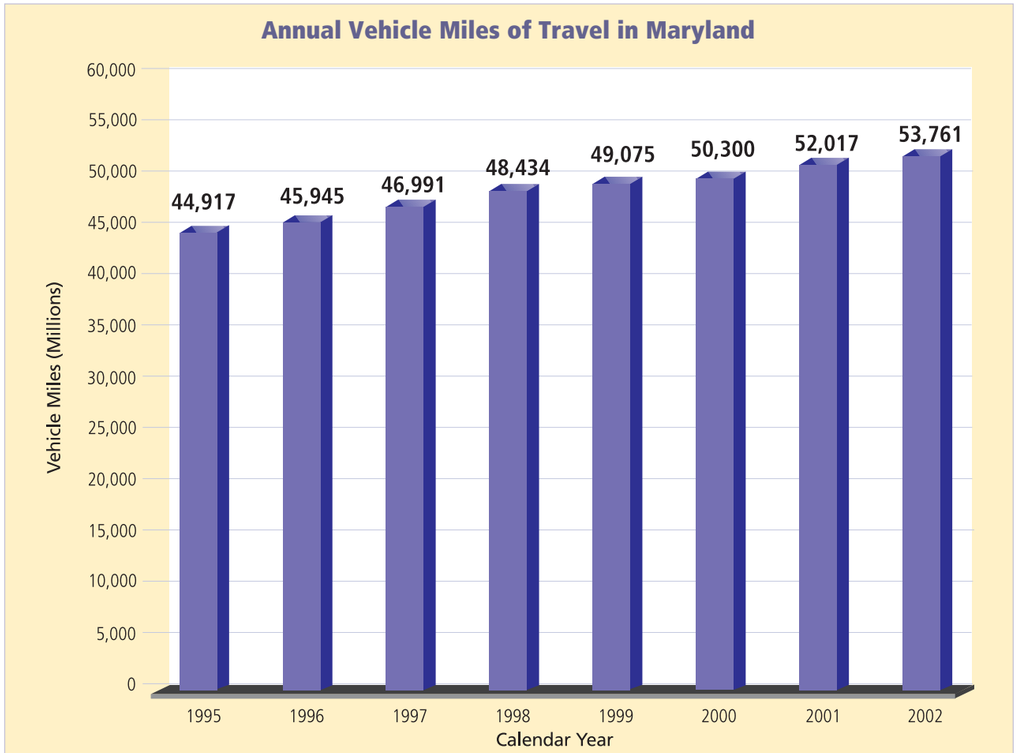
Travel in Maryland - On the Ground

A significant portion of personal travel in Maryland occurs by automobile, light truck, or sport utility vehicle. According to the 2002 American Community Survey conducted by the U.S. Census, work trips are overwhelmingly represented by personal vehicles (83.9 percent) – single-occupant vehicle travel (74.0 percent) and carpools (9.9 percent) – with a smaller proportion of travelers using public transportation (9.4 percent). The mode split for work trips has remained relatively constant since 2000, with a slight increase in the share driving alone, using transit and working at home and a decrease in the share of those carpooling. MDOT's target is to maintain the share of public transportation and other non-single occupant vehicle modes over the six year period and to increase this share over the next 20 years.

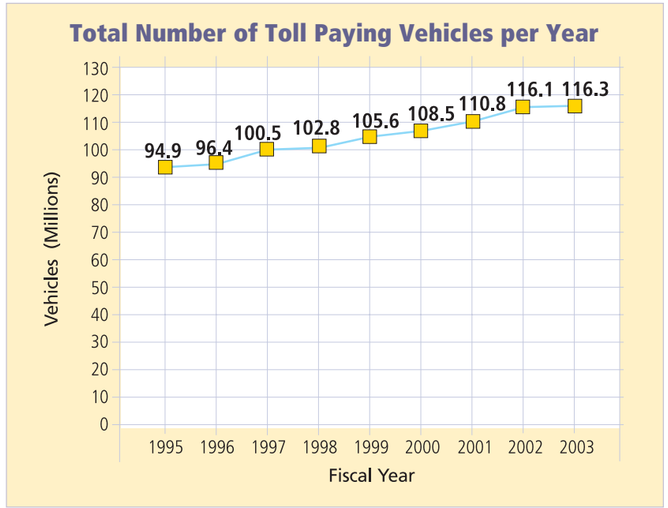




Overall highway vehicle travel, including light vehicles and commercial vehicles, has increased significantly since 1995. Estimates for total vehicle miles of travel in Maryland show an increase of approximately 20 percent in just seven years. Maryland's roads, including both State highways and other roads, now serve almost 54 billion vehicle miles of travel annually.



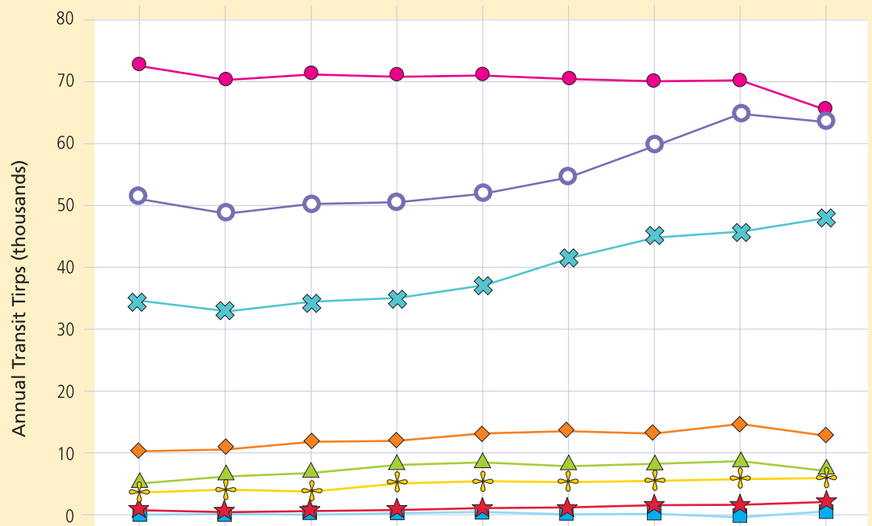
Several of Maryland's key transportation facilities are financed through toll mechanisms and are managed by the MdTA. The number of toll paying vehicles has increased more than 22 percent since 1995, paralleling the 20 percent increase of total Maryland highway vehicle miles of travel.



MDOT is also responsible for the regulation and licensing of vehicles and drivers in the State. As the State's population increases, so does demand for the Motor Vehicle Administration's services. In 2002, the MVA processed more than 14 million transactions. Between 2000 and 2020, Maryland's driving age population is expected to increase by about 19 percent, the number of licensed drivers by 25 percent, and the number of registered vehicles by 29 percent. As these numbers increase, so too will the number of transactions to be processed by the MVA.

Changes in transit ridership have been mixed across the state depending on the travel market served. Between 1995 and 2003, ridership on MTA's bus system serving the city of Baltimore declined by almost 10 percent. By contrast, ridership on WMATA bus and Metro, MARC, and MTA's Metro and light rail systems have increased since 1995, in some cases by more than 40 percent. The challenge is to maintain quality service where there is a declining market while meeting demand for new service in areas where transit provides an option in congested corridors.

Maryland Annual Transit Ridership (Excluding LOTS)



	Fiscal Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
MTA	Bus	73,973	70,511	72,270	71,721	72,638	71,509	70,145	70,127	66,736
MTA	Metro	10,597	11,856	12,600	12,834	13,219	13,609	13,597	14,240	13,196
MTA	Light Rail	5,744	6,261	6,961	7,577	8,610	8,664	8,519	8,548	7,387
MTA	Paratransit	307	382	406	476	502	523	573	452	564
MTA	MARC	4,776	4,735	4,642	4,738	5,025	5,317	5,736	6,063	6,327
MTA	Commuter Bus (Contracted)	1,340	1,350	1,315	1,332	1,411	1,571	1,828	2,170	2,563
WMATA	Bus	34,139	32,189	34,653	35,631	36,214	41,541	45,483	46,400	49,730
WMATA	Rail	51,792	49,304	50,408	50,937	52,747	55,203	60,061	65,548	65,892

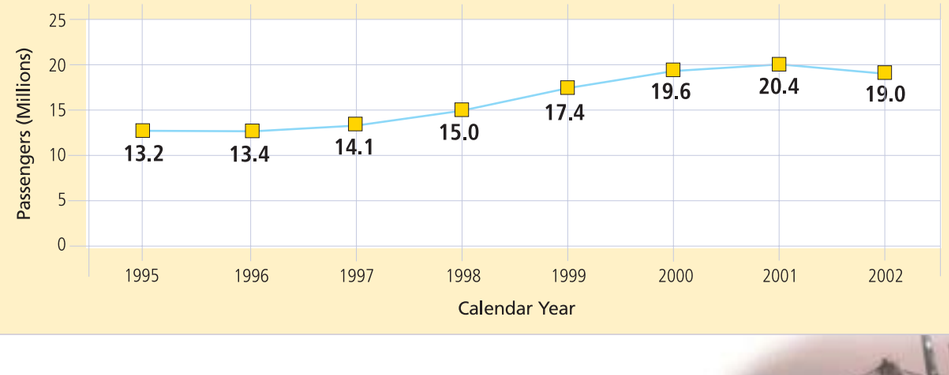
Note: WMATA ridership estimated based on Maryland's share of WMATA's operating subsidy.

MDOT also contributes funding to 25 locally operated transit systems (LOTS) throughout the state. For the most recent year for which data is available, 2002, LOTS carried an additional 32 million transit trips. MDOT supports these transit services with state and federal grants which totaled $40.8 million in the current fiscal year. Detailed performance data for LOTS is currently limited. However, beginning in FY2004, MDOT will require additional performance measures and is currently working with the systems to improve data reporting. The objective is to identify performance measures similar to those used by systems such as WMATA (vehicle revenue miles, passengers per vehicle revenue mile, operating cost per vehicle revenue mile and operating cost per trip).

Travel in Maryland - In the Air

The Maryland Aviation Administration provides the citizens of Maryland with air service opportunities and the State with a powerful economic engine. The MAA owns and operates BWI and Martin State Airport and provides technical assistance and financial grants to Maryland's 35 public use general aviation airports. Grant support to the general aviation airports totaled more than $22 million between 1995 and 2003. This support helps ensure continued access to aviation facilities across the State. BWI has experienced tremendous growth. In 2002, BWI served 19 million passengers, a 44 percent increase over 1995. Despite the short-term state of the airline industry, BWI's potential for growth remains strong because of its location, access and product.

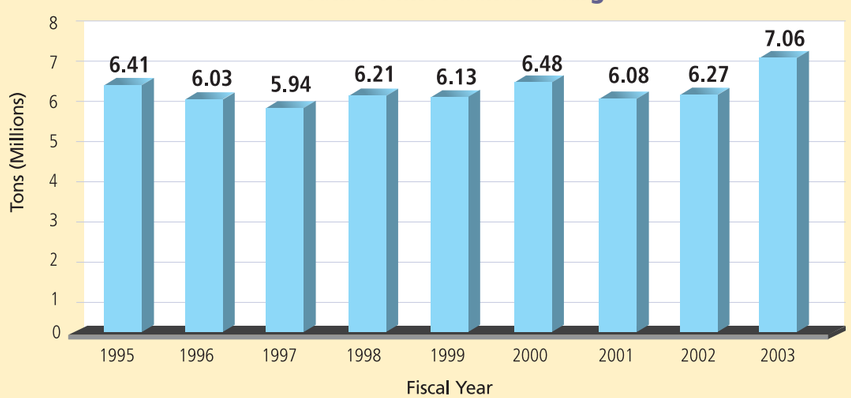
Total Annual Passengers at BWI



Travel in Maryland - Waterborne Commerce

Finally, MDOT plays a key role in the development, marketing, maintenance, and stewardship of the State's port facilities. The Maryland Port Administration manages roughly half of the terminals in the Port of Baltimore, improves channel access, promotes international and domestic trade, and coordinates the delivery of services to the maritime community. In so doing, the MPA provides economic benefits to the State.

Tons of MPA General Cargo



Bicycle and Pedestrian Access

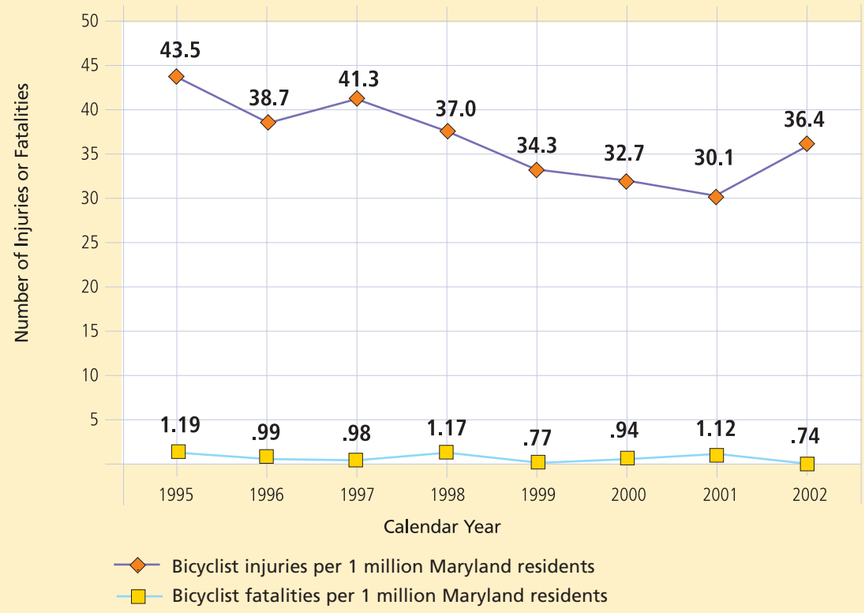
The Maryland General Assembly created the Bicycle and Pedestrian Access Act during the 2000 legislative session. The Act mandated a Twenty-Year Bicycle and Pedestrian Access Master Plan, which was first published in 2002. The Plan called for incorporating bicycle and pedestrian measures in the 2003 Attainment Report and future Attainment Reports. In the spirit of the Plan, a total of 18 local jurisdictions implemented ordinances that support bicycling and walking.

A series of performance measures was developed to track MDOT's success in attaining the goals and objectives of the Bicycle and Pedestrian Access Master Plan. In 2003, the State Highway Administration initiated procedures among its seven districts to calculate new sidewalk and marked bike lane construction. Bicycle access is gauged by two measures: the centerline mileage of State-owned highways with marked bike lanes and the percentage of State-owned roadway centerline miles with a bicycle level of comfort grade of "D" or better (on a scale of "A" to "F"). MDOT uses a nationally recognized methodology for bicycle level of comfort (also known as bicycle level of service) and is one of the first states to undertake such an assessment. In August 2003, eight miles of State-owned highways had marked bike lanes, which constituted 0.2 percent of the 4,750 miles of highways surveyed. SHA has pledged to add 200 miles of marked bike lanes throughout the State by 2006.

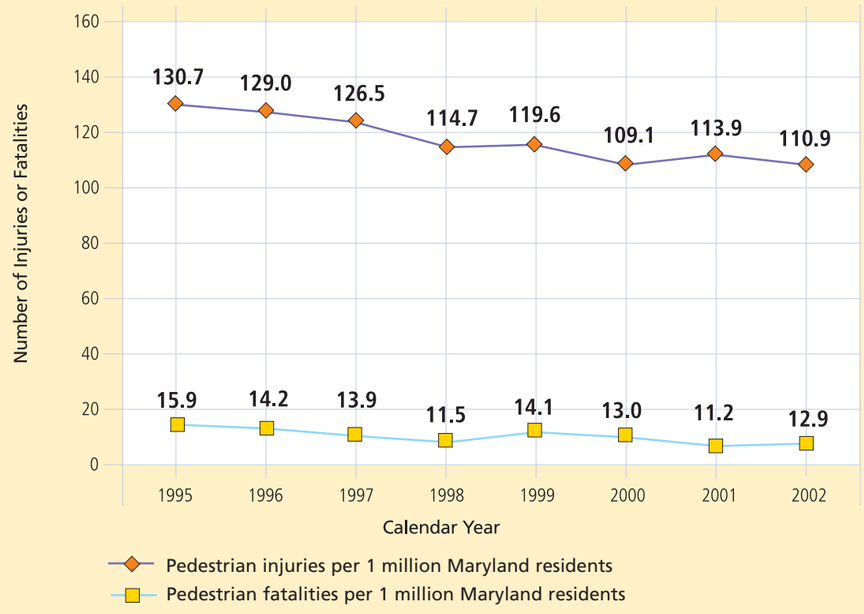
Bicycle/Pedestrian Measures	2002	2003
Number of local jurisdictions implementing local ordinances that support bicycling and walking (Fiscal Year)	no data available	18
Percentage of appropriate transit vehicles that can accommodate bicycles (Fiscal Year)	28%	30%
Percentage of State-owned roadway centerline miles with a bicycle level of comfort (BLOC) grade of "D" or better (Scale "A" to "F") (Calendar Year)	77%	78%
Center-mile mileage of State-owned highways with marked bike lanes (Calendar Year) **Target – Add 200 marked bike lanes by 2006**	6	8
Percentage of State-owned roadway centerline miles within urban areas that have sidewalks (Calendar Year)	18%	20%

Safety for the State's pedestrians and bicyclists is of particular concern for MDOT. The overall rate of bicycle injuries and fatalities per million Maryland residents has declined since 1995. There are some fluctuations upward and downward from year to year, although the overall numbers have been relatively small. Similarly, pedestrian injuries and fatalities have declined since 1995.

Bicyclist Injuries and Fatalities per 1 Million Maryland Residents



Pedestrian Injuries and Fatalities per 1 Million Maryland Residents



Goal 1: EFFICIENCY

POLICY OBJECTIVES:

- Extend the useful life of existing facilities and equipment
- Maximize the operational performance and capacity of existing systems

Maryland's multi-billion dollar transportation networks are vital State assets. These assets not only provide the means for personal travel throughout the State, but also serve businesses and fuel the economy by meeting freight transportation needs. Keeping these assets in top-notch operating condition presents a continuing and significant maintenance challenge, especially as the system ages.

In the face of growing travel demand, increasing construction and equipment costs, and limited resources, MDOT must make the most efficient use of the existing system. This means MDOT must focus efforts on preserving the quality and extending the life of existing transportation assets. It also means MDOT must use technology and innovation to squeeze as much performance as possible out of the State's existing transportation network.

PERFORMANCE MEASURES: EFFICIENCY

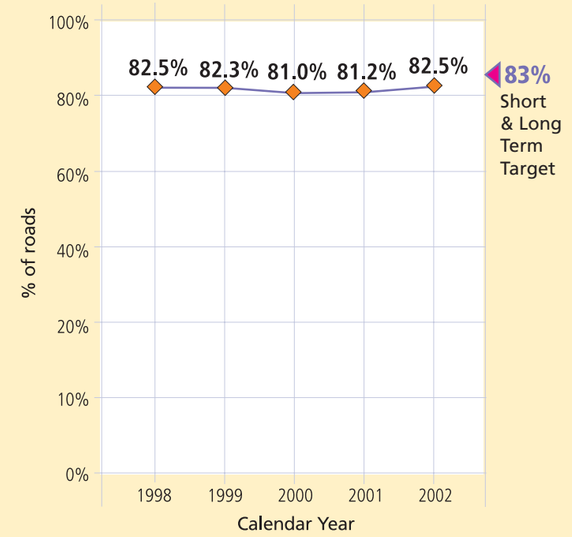
Performance measures identified for this goal area represent the condition, operational efficiency, and utilization of existing transportation assets. Specific performance measures are as follows:

- Percentage of SHA-maintained roads with acceptable ride quality
- Percentage of SHA and MdTA National Highway System bridges meeting Federal structural standards
- Percentage of time that accumulation of sediment in channels causes ship delay or reduction in draft
- Percentage of MTA service provided on time
- Percentage of MTA bus routes with "successful" or "acceptable" performance
- Average MVA branch customer visit time
- Percentage of MVA transactions completed by alternative services
- Reduction in incident congestion delay

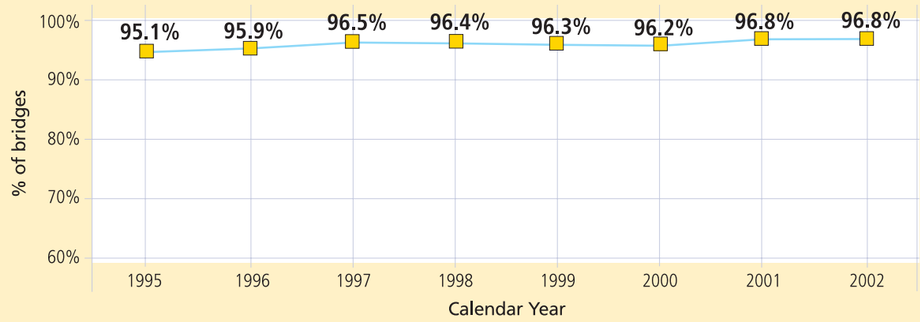
The Department places a high priority on maximizing the useful life of existing assets and on keeping facilities in top condition to ensure service quality. In particular, the State Highway Administration (SHA) focuses on keeping roadway pavement in acceptable condition. Over the last five years, SHA has kept a high percentage of its roads in acceptable condition. Its target is to increase acceptable ride quality to 83 percent within six years and maintain this level over the next 20 years.

Since 1995, the percentage of bridges on Maryland's portion of the National Highway System (NHS) meeting federal structural standards has increased from 95.1 to 96.8 percent.

Percentage of SHA–Maintained Roads with Acceptable Ride Quality



Percentage of SHA and MdTA NHS Bridges Meeting Federal Structural Standards



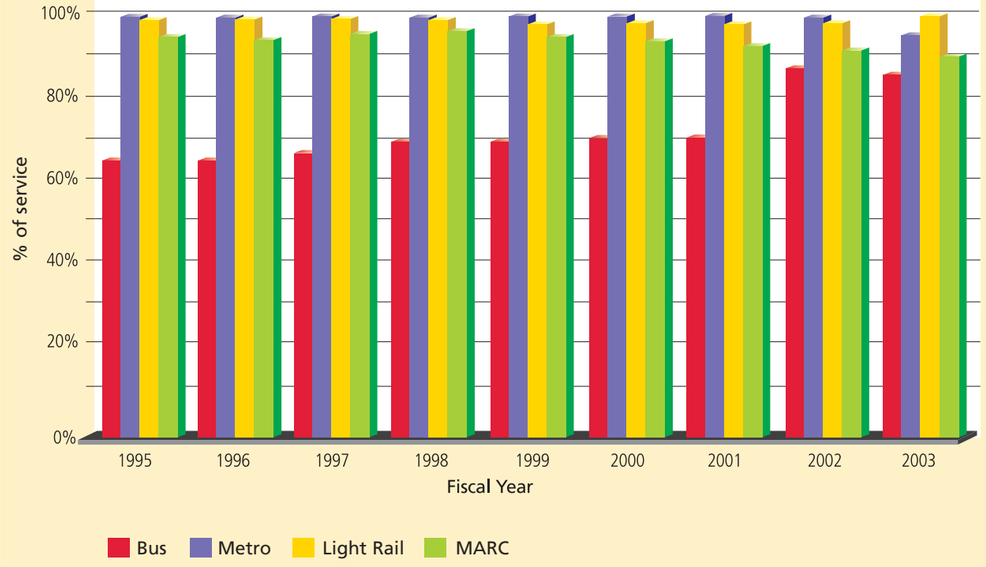
Note: Federal bridge standards refer to "structurally deficient" bridges only

On average, the Port of Baltimore receives 6.3 million tons of general cargo each year. To maintain the Port's competitiveness in a national market and to ensure that visiting cargo ships can maneuver freely, the Maryland Port Administration (MPA) and Army Corps of Engineers dredge the existing channels to remove accumulated sediment. From 1995 to 2003, cargo ships using the Port of Baltimore experienced zero delay due to sediment accumulation.

Performance Measure	Fiscal Year 1995-2003	Targets	
		Short-Term	Long-Term
Percentage of time that accumulation of sediment in channel causes ship delay or reduction in draft	0	0	0

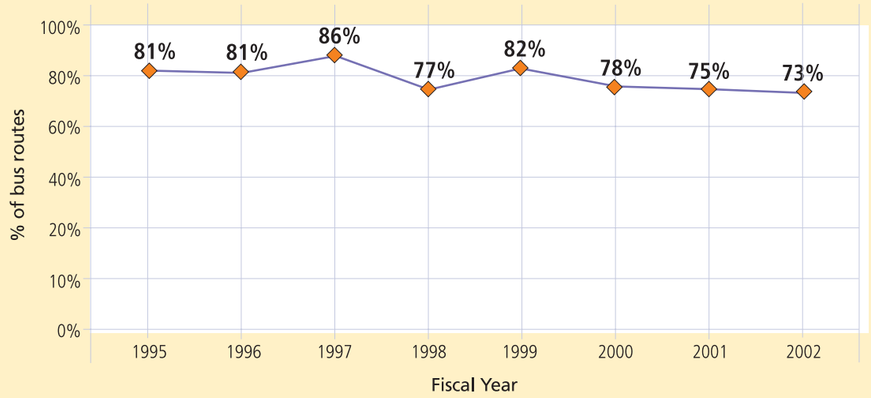
The Maryland Transit Administration (MTA) evaluates the efficiency of its services by tracking on-time performance. A high percentage of MTA's Metro, light rail and MARC services have performed on time since 1995. Bus services are typically more prone to delay, however, due in large part to the unpredictable nature of traffic conditions.

Percent of MTA Service Provided On Time



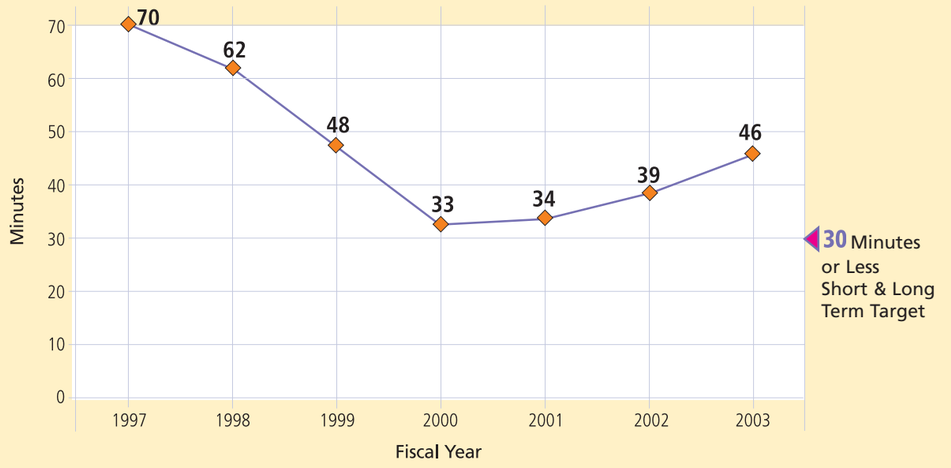
The MTA also rates the performance of each of its bus routes as "successful," "acceptable" or "problem" based on four measures: passengers per vehicle revenue mile, passengers per vehicle trip, farebox recovery ratio, and subsidy per passenger. From 1995 to 2002, the percentage of MTA bus routes with "successful" or "acceptable" performance has decreased from 81 percent to 73 percent.

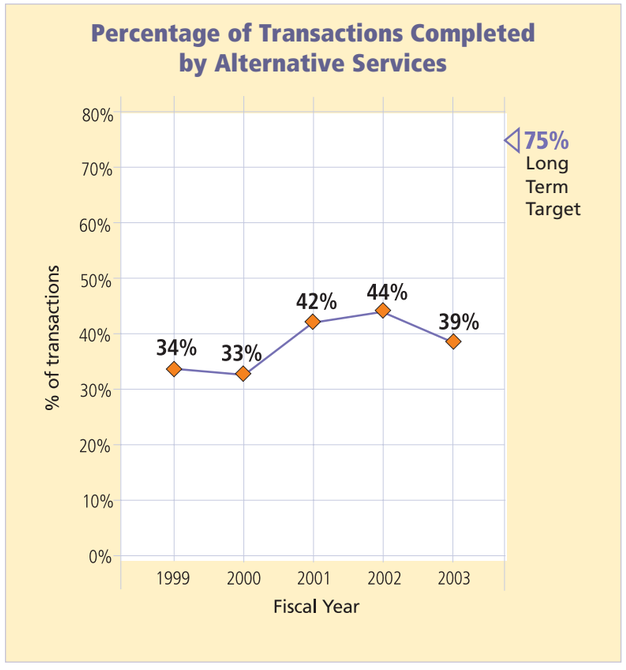
Percentage of MTA Bus Routes with "Successful" or "Acceptable" Performance



The Motor Vehicle Administration (MVA) tracks MVA branch customer visit time as an indicator of service delivery efficiency. From 1997 to 2000, the average MVA branch customer visit time decreased dramatically. Recently, visit times have risen due to a hiring freeze, continued growth in customers, and a new driver's license program with heightened security requirements. Despite these challenges, the MVA seeks to reduce the average visit time to less than 30 minutes within the next six years and to maintain this level for the next 20 years.

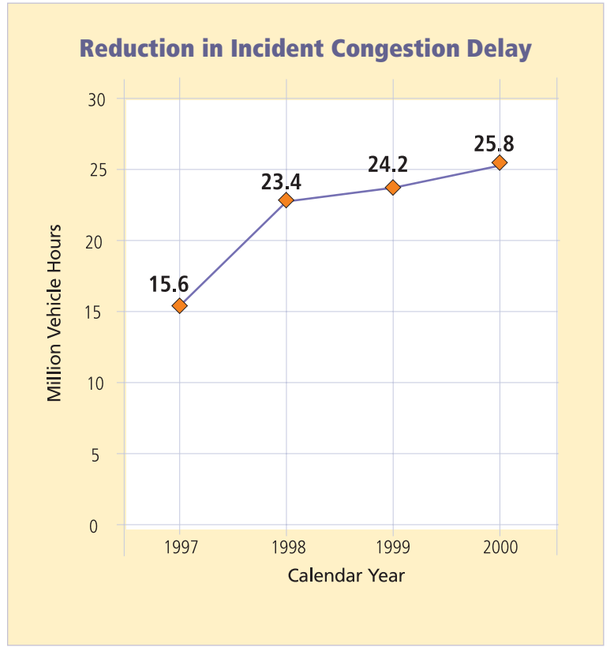
Average MVA Branch Customer Visit Time





To further improve service delivery, the MVA also plans to increase the number of transactions completed by alternative means such as kiosks, the Internet, mail and telephone. Over the past five years, the percentage of transactions completed by alternative means has averaged 38 percent. The MVA's long-term target is to increase this share to 75 percent, as a means of improving customer satisfaction and also reducing automobile trips on the State transportation system.

MDOT uses a variety of technology and management tools to maximize the efficiency of the State's existing transportation system. A specific example is SHA's Coordinated Highway Action Response Team (CHART) program, a traffic and monitoring system that manages congestion on the State's busiest stretches of highway. SHA uses CHART to identify a problem (such as a crash or disabled vehicle) and then initiates an immediate response to clear the incident. By detecting incidents soon after they occur, CHART has measurably reduced delays due to incidents. Between 1997 and 2000, CHART saved Maryland citizens a total of almost 90 million hours of driving time.



Similar technology and management concepts are utilized throughout the Department to achieve the maximum benefit from existing assets. Specific programs include:

- **Maryland Smart Card** - A new rechargeable farecard will provide a seamless, connected trip across different transit systems.
- **SmartPark Technology** - The Maryland Aviation Administration (MAA) has installed SmartPark Technology at Baltimore Washington International Airport to provide travelers with real time information on parking space availability.
- **CUTE** - MAA is implementing Common Use Terminal Equipment (CUTE) technology at its international terminal to maximize the use of ticket counters and gates at BWI. CUTE allows gates and ticket counters to be assigned to an airline on an as-needed basis, thereby maximizing available capacity.

Summary

MDOT is successfully maintaining the condition of the existing transportation system despite increasing demand for travel. Almost a hundred percent of the State's bridges meet federal structural standards, the quality of pavement condition has remained steady, and the State's port channels have stayed open and free from delay. Challenges remain as constrained budgets, continued population growth and new security related requirements have resulted in increases in wait times for MVA customers and some decreases in performance for MTA bus routes. To address these challenges, MDOT is focused on making efficient use of the existing transportation system. MTA has improved the on-time performance of transit services. New technology, such as SHA's incident management program, has reduced delays on the State's highways.

Goal 2: MOBILITY

POLICY OBJECTIVES:

- Relieve congestion by adding key system links
- Support varied modal needs with cost-effective options

Transportation mobility – or the ease of movement from one place to another across a transportation network – is vitally important for both people and goods and for a wide range of purposes and destinations. The range of mobility needs in the State requires a multimodal transportation network that ensures easy access to the transportation network, allowing people and businesses to travel or move goods without significant delays, and to transfer seamlessly among complementary transportation systems and services. Optimized mobility also enables people to choose the travel method best fitting their individual needs and lifestyles.

The Department of Transportation finds itself at a crossroads, facing key gaps and bottlenecks within the State's transportation system that are known to cause delay and congestion. Critical system additions are essential to improve the operations of the various network components and to facilitate overall mobility.

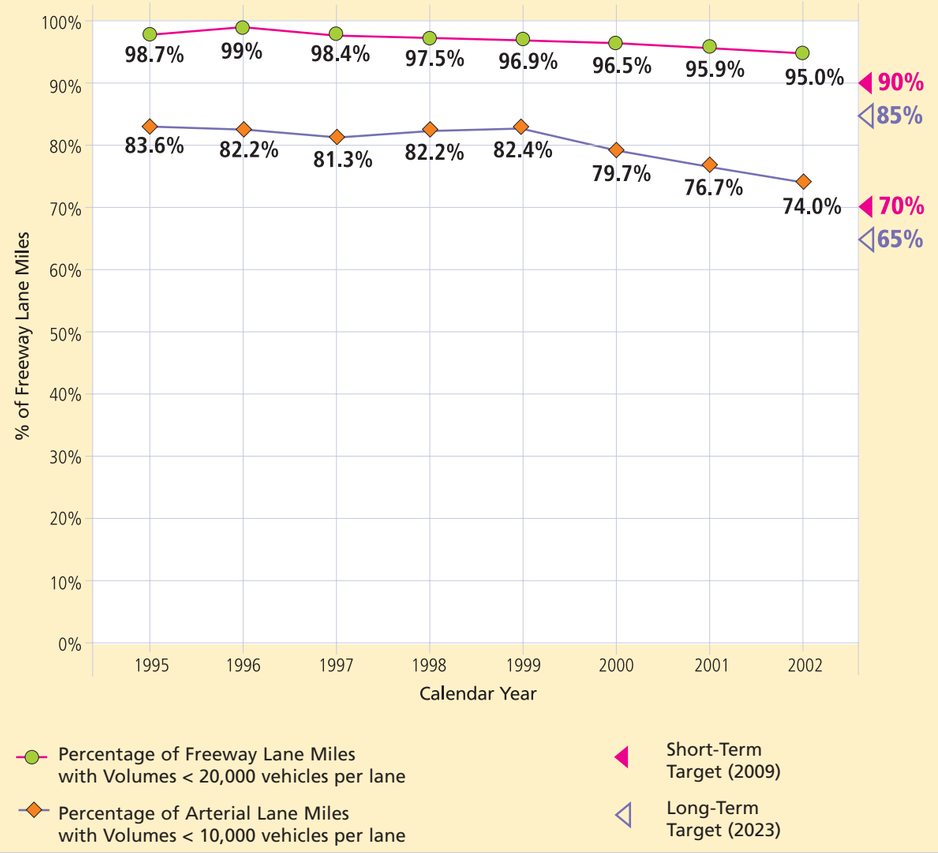
PERFORMANCE MEASURES: MOBILITY

MDOT uses several performance measures to gauge its success in providing mobility for the citizens of Maryland. These measures focus on levels of congestion, the effect of new transportation links, the impact of improving operations, and the use of transit and other alternative modes. Specific performance measures are as follows:

- Percentage of lane miles with average annual volumes below congested levels
- Peak period congestion of freeways in the Baltimore and Washington regions
- Percentage of vehicle trips on toll facilities served by E-ZPass℠
- Annual vehicle revenue miles of MTA transit service provided
- Average delay per aircraft operation at BWI airport (take-offs and landings)

Congestion is difficult to quantify because it fluctuates in severity, extent, and duration. One measure used by states to identify the prevalence of congestion is the percentage of lane-miles with high traffic volumes. As the number of vehicles on a stretch of roadway increases beyond the number that it was originally designed to carry, delays become longer and more frequent. The SHA has established an acceptable average daily volume per lane mile for freeways and another for arterials. Anticipating continued growth in the State's economy, population, and employment, the SHA has set targets that assume a continued, but controlled increase in congestion across the State. MDOT and SHA are actively seeking to develop more sophisticated measures to better reflect statewide levels of congestion.

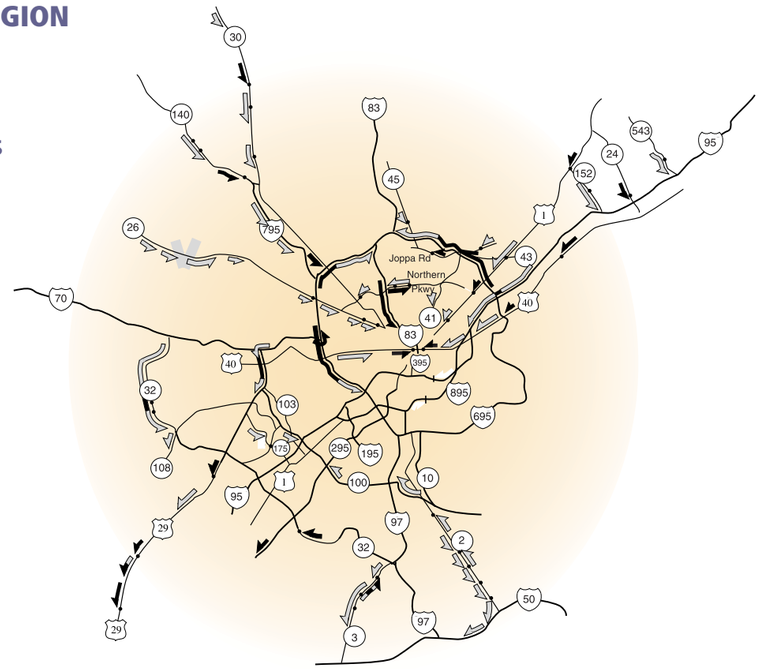
Percentage of Lane Miles with Average Annual Volumes Below Congested Levels



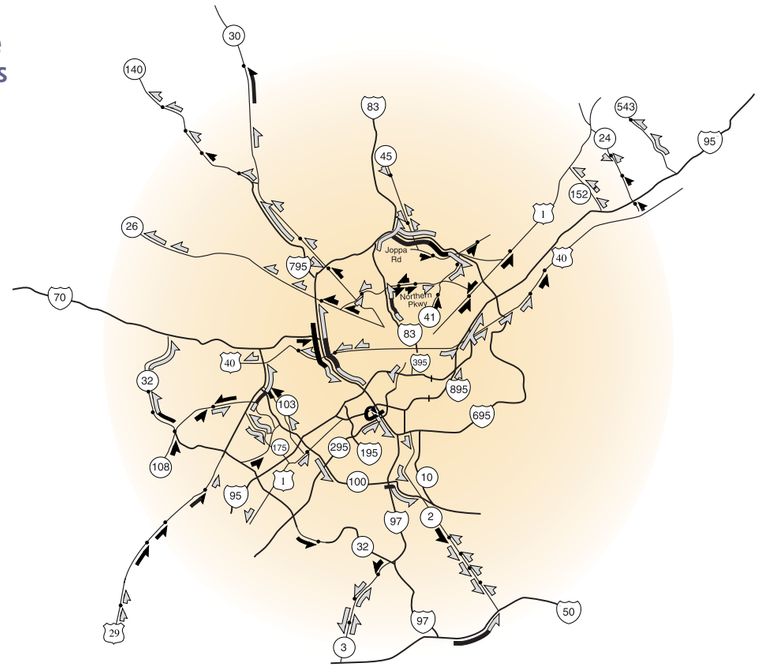
Congestion is typically more severe in urbanized areas. Therefore, every three years, the SHA, together with the Baltimore Metropolitan Council and the Metropolitan Washington Council of Governments, conducts photographic surveys of approximately 875 miles of the State's primary road system within the Baltimore and Washington, D.C. metropolitan areas to update information on traffic conditions. By repeating the survey on a three-year cycle, long-term trends can be monitored and the effects of changes on the system can be evaluated. The following maps depict the most recent analysis conducted in the spring of 2002.

BALTIMORE REGION

Location where Congestion was found Morning (Spring 2002)



Location where Congestion was found Evening (Spring 2002)

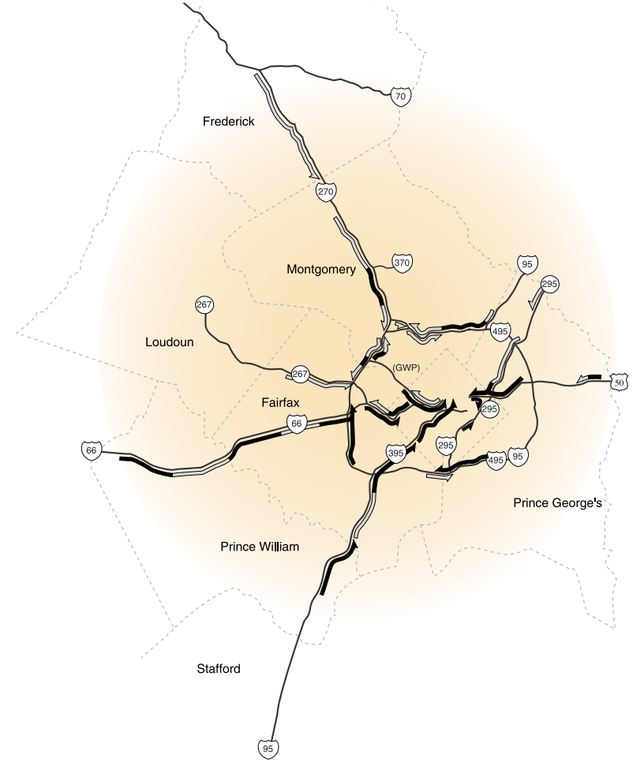


FREEWAY TRAFFIC QUALITY
- Congested flow (Estimated average speed 30-50 mph)
- Congested flow (Estimated average speed < 30 mph)

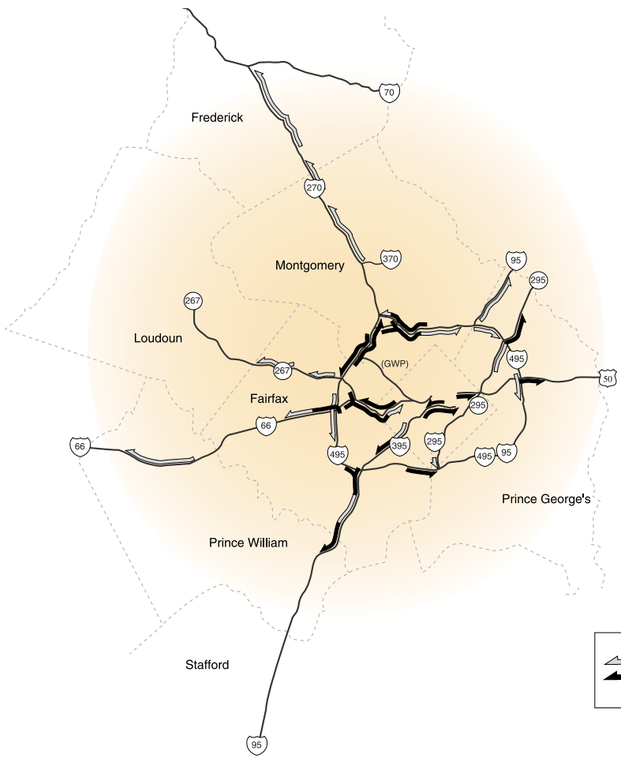
SIGNALIZED HIGHWAY TRAFFIC QUALITY
- Intermittent congestion or slow moving platoons along a highway segment
- Congested Signalized Intersection (intermittent)
- Congested Signalized Intersection (continuous)

WASHINGTON REGION

Location where Congestion was found Morning (Spring 2002)



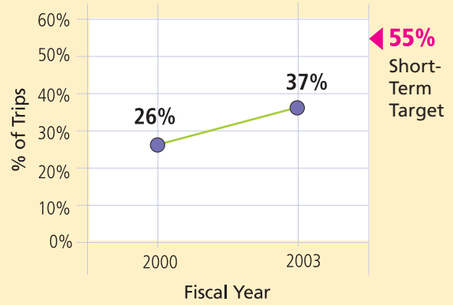
Location where Congestion was found Evening (Spring 2002)



FREEWAY TRAFFIC QUALITY
- Congested flow at average speeds of 30-50 mph
- Congested flow involving varying degrees of stop-and-go (average speeds < 30 mph)

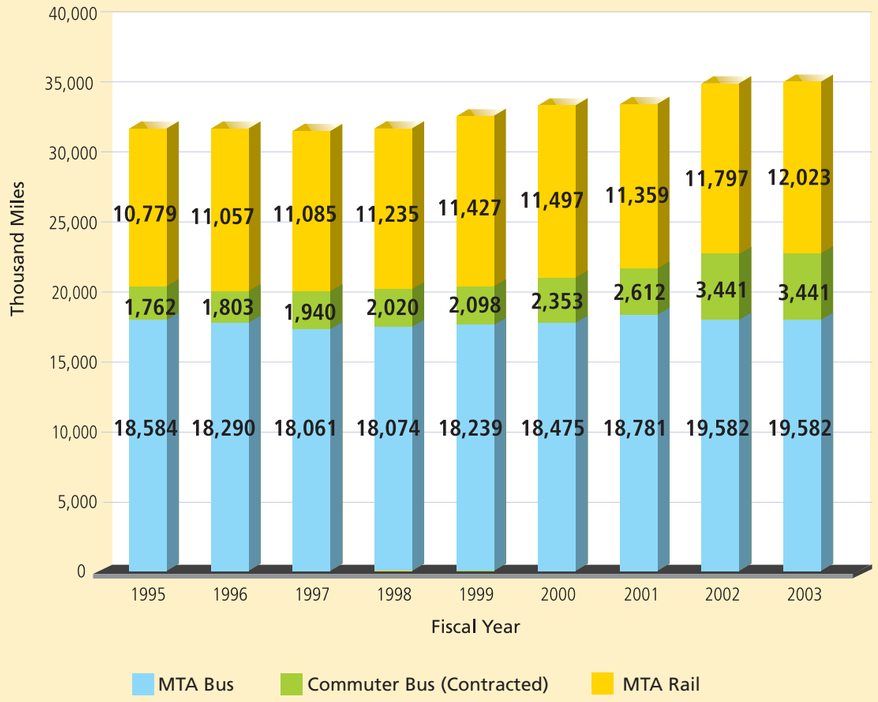
The MdTA is implementing new technology to expand the capacity of the toll plazas on its road and bridge facilities. For example, the electronic toll collection program, E-ZPass℠, is growing rapidly, and the MdTA hopes to collect more than half of its tolls using this technology by 2006. Improvements in the operation of toll collection facilities increase the flow of vehicles passing through the toll plazas, thus reducing travel times.

Percentage of Vehicle Trips on Toll Facilities Served by E-ZPass℠



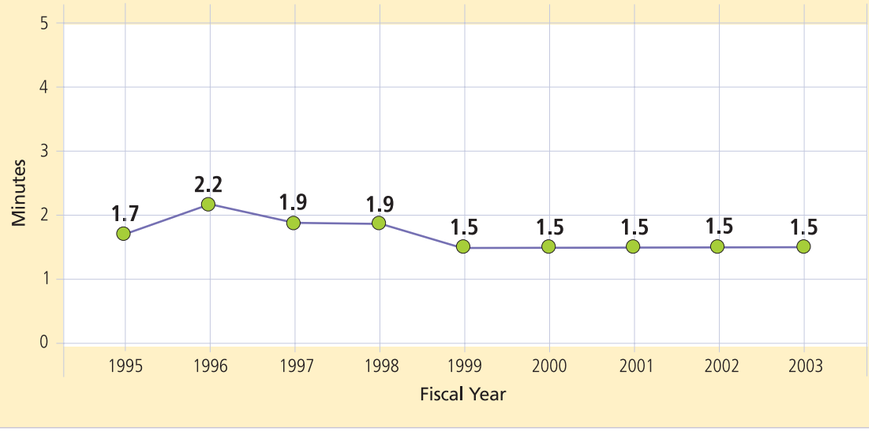
Transit offers an alternative form of travel, particularly in congested corridors where highway capacity expansion is restricted and operational improvements have been implemented. Transit services also provide mobility to those without motor vehicles or the ability to drive. As shown below, total vehicle revenue miles of service provided by MTA have increased by more than 12 percent since 1995. The most significant increase has occurred on commuter buses, where service has almost doubled since 1995.

Annual Vehicle - Revenue Miles of Transit Service Provided (Excluding LOTS)



Maintaining adequate capacity on the State's aviation system is also a challenge given an increasing number of aircraft arrivals and departures. BWI has not experienced severe airside congestion since US Airways began downsizing its hub in the 1990s. In addition, air traffic control regulations changing separation standards and facility modifications at BWI have also reduced congestion. However, continued air service expansions could cause BWI to experience operational airside congestion within the decade. Federal Aviation Administration guidelines state that average delays on runways should be less than four minutes. Delays above this threshold become unacceptable and suggest that additional runway capacity is needed. Recent forecasts estimate that BWI could reach the four-minute threshold in 2013.

Average Delay per Aircraft Operation at BWI Airport (take-offs & landings)



Summary

MDOT continues to face the challenge of escalating travel in the State. Congestion levels on the State's roadways are increasing and performance targets seek to manage this change. MDOT is actively seeking new ways to improve mobility through technology (e.g., E-ZPass℠), alternative means of travel (e.g., bus rapid transit), and key system expansion opportunities. For other modes of transportation, MDOT has managed to accommodate travel growth while still minimizing delays for travelers. As travel demand continues to increase with an expanding local economy and population growth, MDOT will seek cost-effective ways to protect and enhance the mobility of Maryland citizens.

Goal 3: SAFETY AND SECURITY

POLICY OBJECTIVES:

- Reduce injuries, fatalities and risks
- Improve security of the public

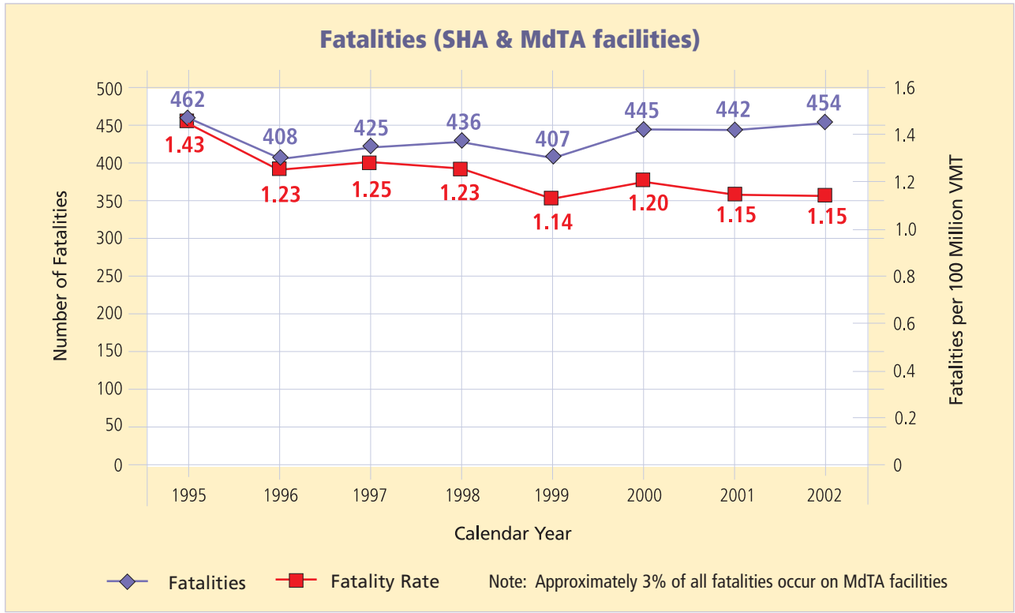
Providing safe and secure travel for Maryland residents and visitors is of vital importance. Enhanced safety has been a transportation priority for as long as Maryland has had a transportation program. After September 11, 2001, threats to the personal security of travelers and transportation assets themselves have received heightened attention.

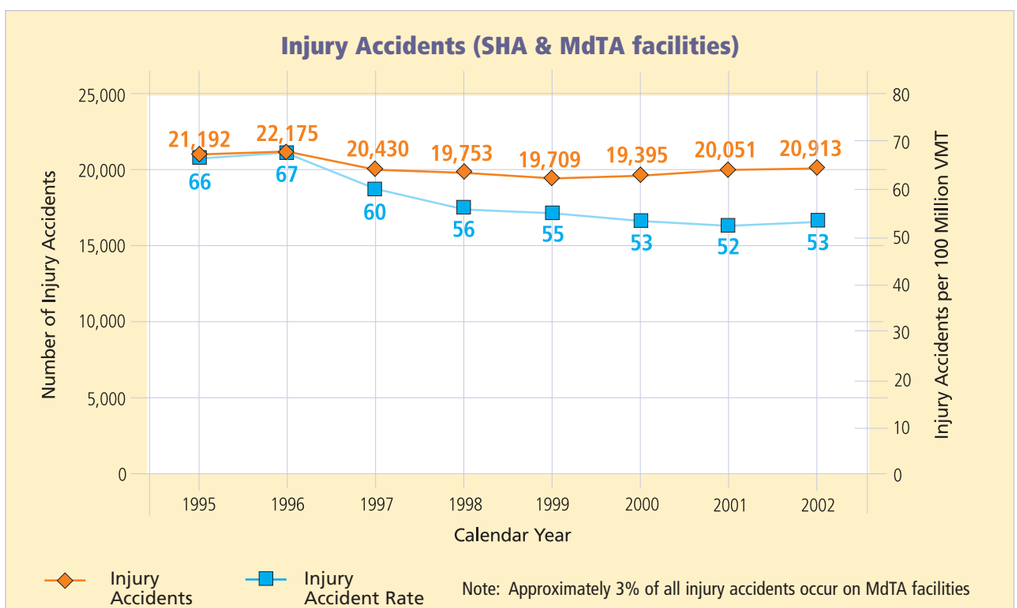
PERFORMANCE MEASURES: SAFETY AND SECURITY

Fatality and injury accident rates per vehicle mile traveled on the State's highway and transit systems provide the most important measures of safety. Fatality and injury accident rates are influenced by numerous factors, including vehicle design and safety features, traffic volumes, driver behavior, weather and roadway design. Specific performance measures are as follows:

- Number and rate of injury accidents on SHA and MdTA facilities
- Number and rate of fatalities on SHA and MdTA facilities
- Customer perception of the safety of the MTA system
- Number and rate of injuries on MTA transit services
- BWI compliance with FAA safety inspection
- BWI compliance with annual TSA regulatory assessment of security certification
- Port compliance with Maritime Transportation Security Act 2002 mandates

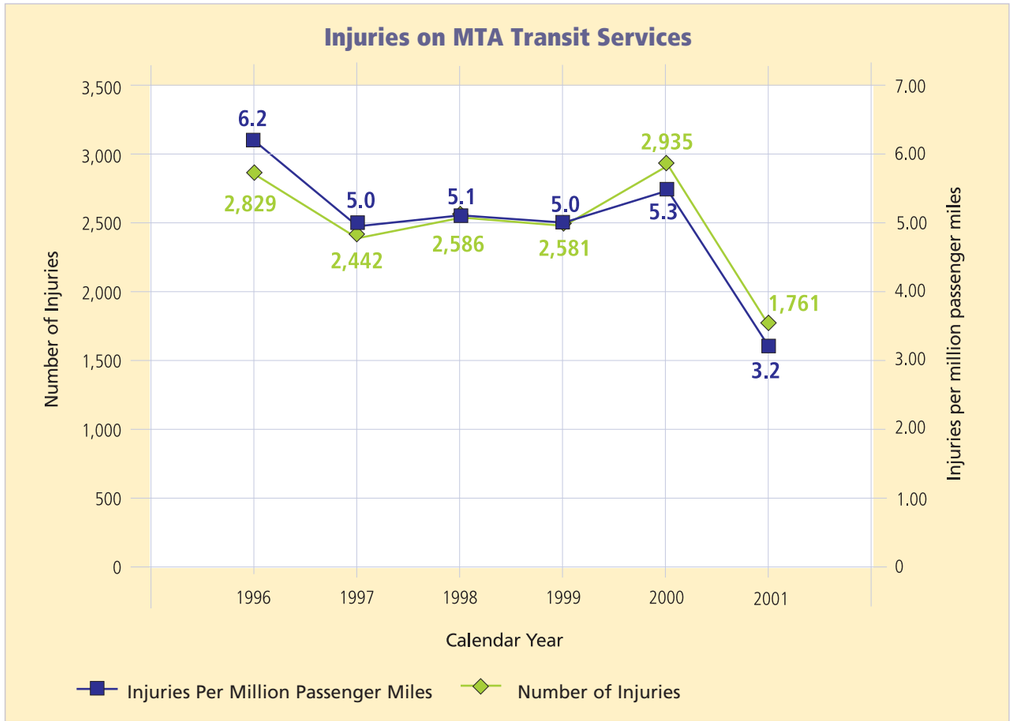
MDOT, its modal administrations and the MdTA work to promote safety through both design and safety-focused programs. For example, MVA's Graduated Licensing Program promotes knowledge of responsible driving practices. MVA also conducts motorcycle rider education courses and ensures that registered vehicles conform to insurance requirements. In addition, MVA, in accord with the Federal Motor Carrier Safety Improvement Act of 1999, shares driver conviction data with other states. As a result of efforts throughout MDOT, overall fatality and injury accident rates have decreased since 1995, with some variance from year to year.





MTA's efforts to provide a safe and crime-free environment on its transit systems include police presence at light rail and subway stations and parking lots, as well as an increased emphasis on defensive driving techniques for its bus operators. MTA conducts annual customer surveys to assess how these efforts are influencing customers' perceptions of the transit systems' safety.

MTA also tracks the number of fatalities and injuries occurring on its bus, light rail, Metro and MARC services. Between 1997 and 2001, only four fatalities have occurred on MTA transit services. Transit injury data is typically presented in terms of injuries per million passenger miles.



MDOT plays a role in providing security at Maryland's airports and port facilities and security issues have become critically important since September 11, 2001. Performance measures for airport and port security focus on compliance with federal standards for safety and security. Annual reviews are conducted to ensure compliance with these standards.

Performance Measure	2003	Targets	
		Short-Term	Long-Term
BWI compliance with FAA safety inspection	Pass	Pass	Pass
BWI compliance with annual TSA regulatory assessment for security certification	Pass	Pass	Pass
MPA compliance with Maritime Transportation Security Act 2002 mandates	Pass	Pass	Pass

Summary

Providing safe and secure travel for Maryland residents and visitors is of vital importance. MDOT has numerous programs that target the safety of its transportation system, from roadway improvements to outreach and education programs. These efforts are, in part, contributing to a reduction in the number of fatalities and injuries on the State's highway and transit systems. After September 11, 2001, threats to the personal security of travelers and transportation assets themselves have received heightened attention and MDOT is actively addressing the increasing security requirements, particularly at its airports and port facilities. To date, Maryland's airport and port facilities are meeting all federal regulations. MDOT will continue to actively target programs and policies that improve the safety and security of its citizens as they travel on the State's transportation system.

Goal 4: PRODUCTIVITY AND QUALITY

POLICY OBJECTIVES:

- Reduce project implementation time through process improvements
- Incorporate environmental stewardship into all projects and activities
- Contain costs and leverage resources with business-like organization and innovative approaches to funding and service delivery

More than ever, Marylanders rely on the Department of Transportation to do more with less. Recognizing that long project completion schedules introduce escalating costs and postpone vital service improvements, the Department must continue to streamline the project delivery process for high-priority projects while maintaining the Department's strong environmental stewardship ethic and minimizing construction-related disruption.

PERFORMANCE MEASURES: PRODUCTIVITY AND QUALITY

Performance measures identified for this goal area focus on MDOT's efforts to meet its environmental responsibilities and to incorporate business-like management strategies. Specific performance measures associated with the productivity and quality goal area are as follows:

- Transportation related emissions by region
- Percentage of customer survey responses rating SHA performance as "very good " or "outstanding"
- Customer satisfaction with MTA
- MVA customer service rating "good" or "very good"
- Maintenance expenditures per lane mile
- MVA cost per transaction
- MTA operating cost per passenger
- MTA operating cost per passenger mile
- BWI operating cost per enplaned passenger
- BWI revenue versus operating costs
- MPA revenue versus operating costs

Environmental Stewardship

MDOT's environmental stewardship includes commitments to mitigate ecological impacts and reduce transportation-related emissions. In many cases, MDOT has adopted environmental policies and procedures that exceed Federal and State requirements. For example, between 1995 and 2003, the State Highway Administration restored or replaced approximately 65 acres of wetlands in excess of those required through the environmental review process.

MDOT is also committed to improving Maryland's air quality, although its influence in this area is only indirect. Many pollutant sources that affect local air quality are located outside the State. Over the last 10 years, transportation-related emission levels have decreased in the Baltimore and Washington areas. Efforts aimed at reducing the precursors to ozone formation, nitrogen oxide (NOx) and volatile organic compounds (VOCs), have been particularly effective, as shown in the following table:

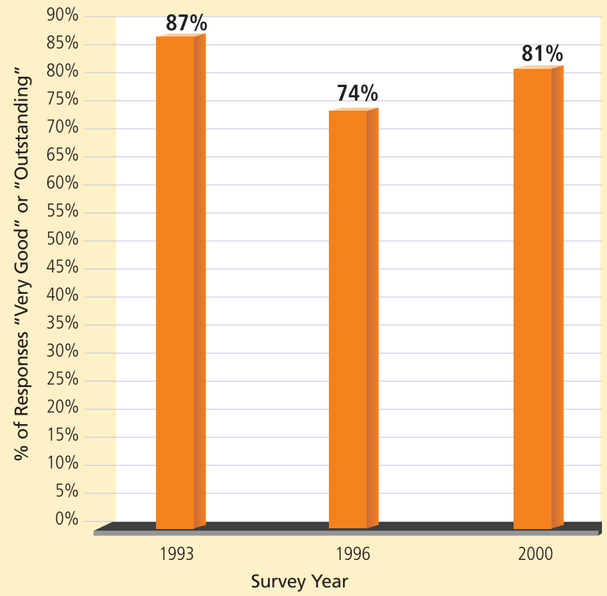
Transportation Related Emissions by Region

Performance Measure	Region	1990	1999	2002
VOC (Tons per day)	Baltimore	165.1	91.8	72.6
	Washington	228.2	212.4	186.9
NOx (Tons per day)	Baltimore	299.2	148.2	98.1
	Washington	380.8	273.2	237.4

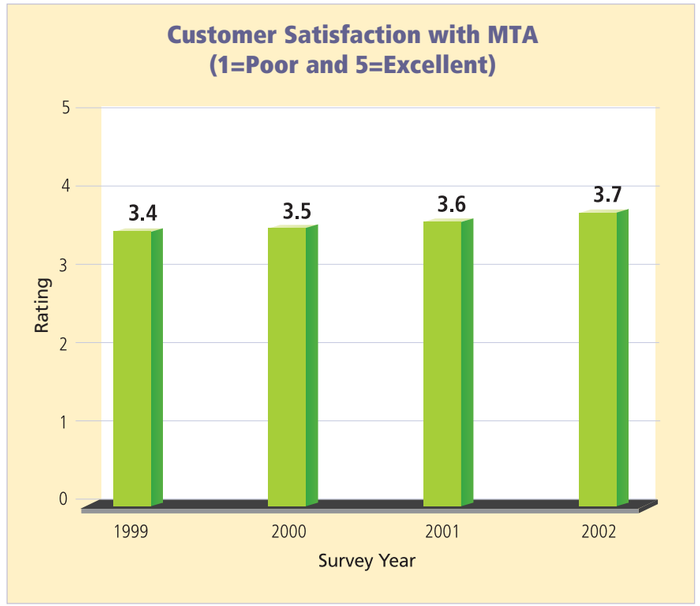
Customer Surveys

The SHA, MTA, and MVA conduct customer satisfaction surveys on a regular basis and the MAA is initiating similar surveys. The SHA has conducted a mail-in survey, the results of which indicate that Maryland motorists are satisfied with the agency. The SHA has set a target to maintain the total percentage of respondents rating SHA performance as "Very Good" or "Outstanding" at 81 percent, the same percentage of achievement in the year 2000 survey.

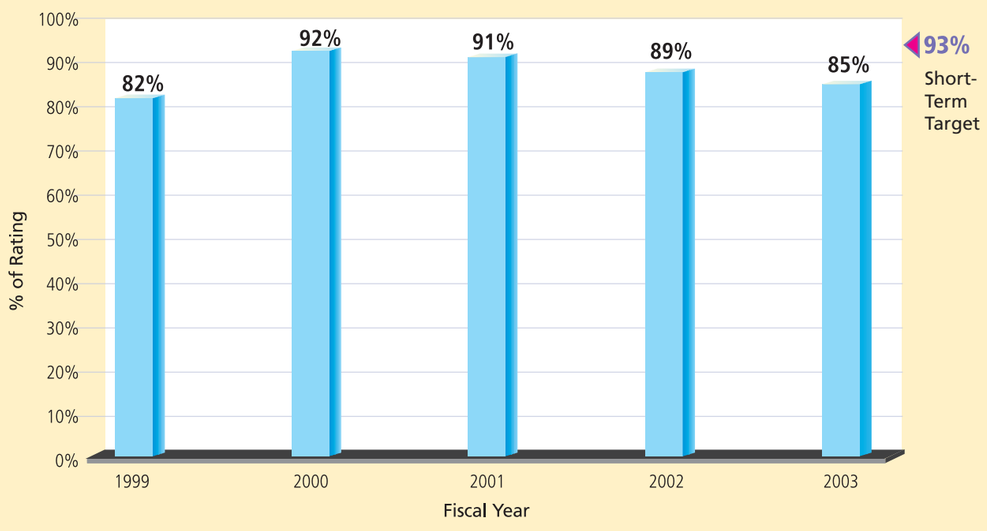
Percentage of Customer Survey Responses Rating SHA Performance as "Very Good" or "Outstanding"



The MTA conducts annual surveys to obtain customer satisfaction information on specific topics, such as vehicle cleanliness and on-time service delivery, as well as overall satisfaction. The results show that customer satisfaction has increased over the last four years.



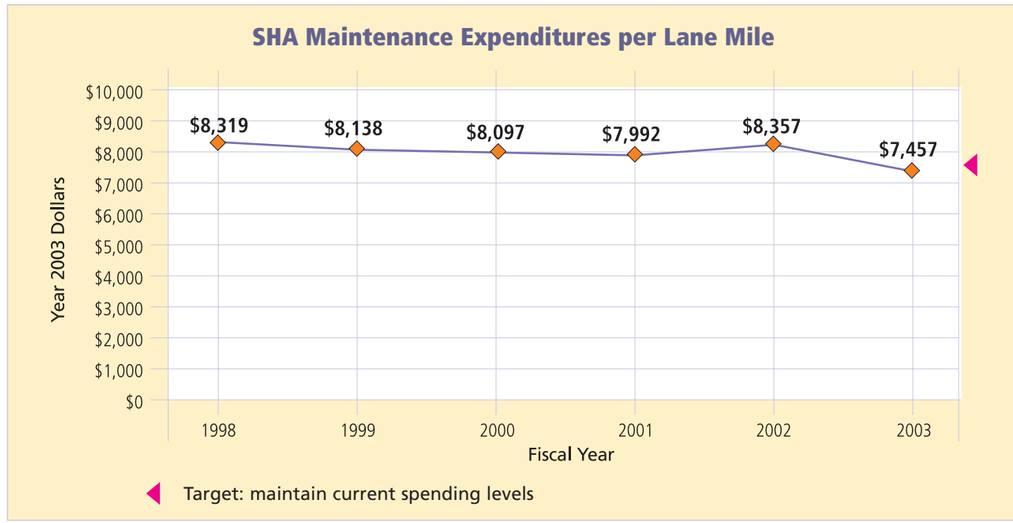
The MVA conducts a quarterly survey to collect customer comments. Customer satisfaction with MVA services is typically linked to the average visit time at MVA branch offices. Unfortunately, customer wait times have increased since 2000, likely contributing to the decrease in customer satisfaction. MVA aims to reverse this trend over the next six years with a target rate of 93 percent of customers rating MVA services as "good" or "very good."



The MAA launched a triennial customer survey in 2003. The survey will provide the agency with passengers' opinions about the quality of services, areas in need of improvement, and opportunities for potential service enhancements.

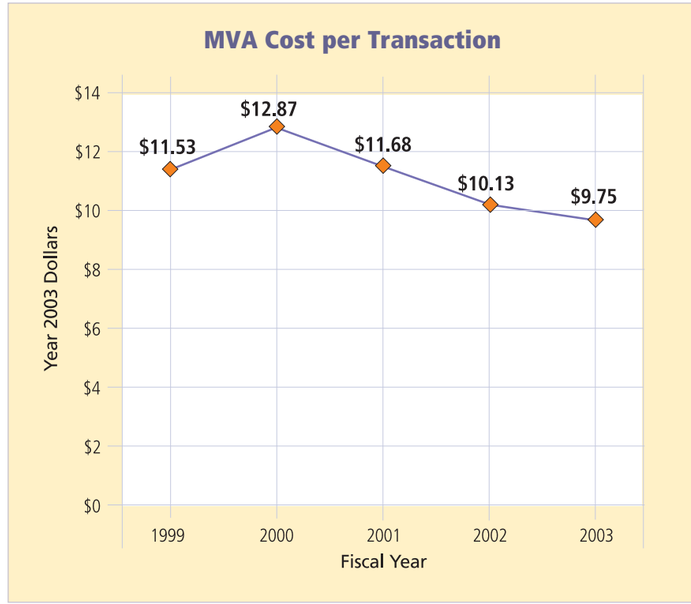
Cost-Effectiveness

In support of the productivity and quality goal, and to maximize the use of resources, MDOT evaluates the cost-effectiveness of existing programs. Cost-effectiveness typically measures the costs incurred to produce a given level of achievement.



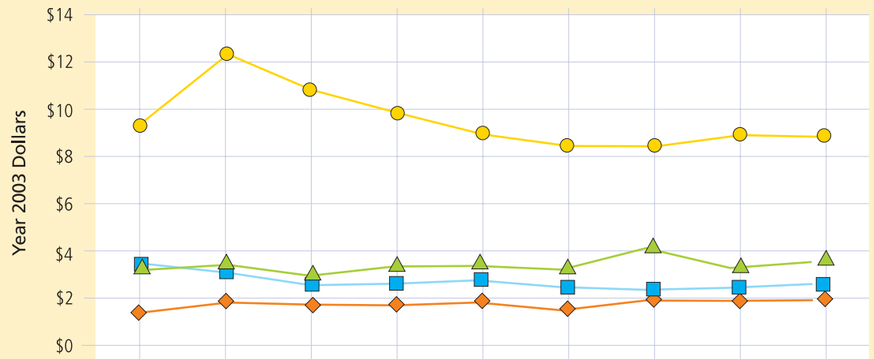
The SHA's business plan includes an objective to keep the maintenance costs per lane-mile at or below current levels while maintaining the integrity of the highway system. Maintenance costs include routine landscaping, traffic signing, lighting and signal upkeep, but exclude unpredictable winter weather-related costs. The SHA seeks to reduce maintenance costs by partnering with private industry, substituting natural landscaping for mowed areas, and implementing alternative work schedules.

Similarly, the MVA seeks to manage costs without adversely effecting the customer experience. Although MVA's costs per transaction have decreased since 2000, the average branch customer visit time has increased and customer satisfaction has decreased. The MVA will continue to balance these conflicting goals through innovative means such as alternative service delivery options, which include transactions via mail, the Internet, kiosks, or telephone.



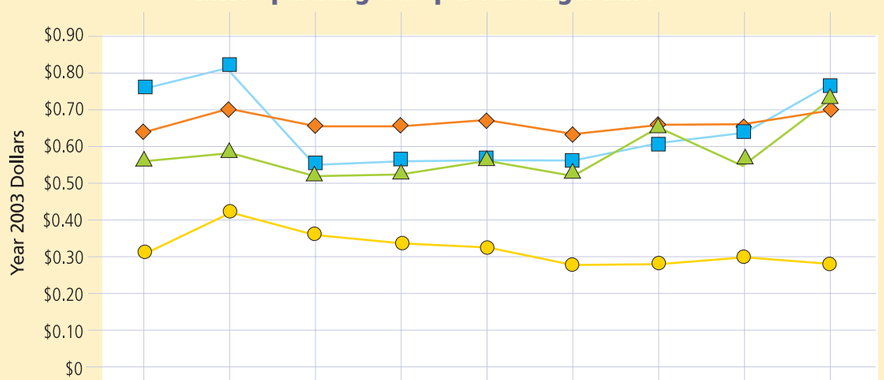
The MTA uses operating cost per passenger and operating cost per passenger mile to evaluate transit cost-effectiveness. Since 1995, the operating costs per passenger on MTA bus, metro, and light rail systems have remained relatively constant, while MARC commuter rail system costs have fluctuated. While the cost per passenger is higher for services with longer trips (MARC) than for services with shorter trips (buses), the cost per passenger mile traveled is not. Although MARC carries fewer passengers, these passengers are typically traveling longer distances. As a result, the cost per passenger mile traveled on MARC is lower than the other transit services.

MTA Operating Cost per Passenger



Fiscal Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Marc	$9.44	$12.58	$11.04	$10.16	$9.72	$8.84	$8.84	$9.27	$9.18
Light Rail	$3.72	$3.82	$3.39	$3.70	$3.94	$3.64	$4.34	$3.75	$3.97
Metro	$3.88	$3.36	$2.93	$2.99	$3.00	$2.90	$2.80	$2.84	$2.91
Bus	$1.85	$2.07	$2.01	$2.01	$2.09	$1.94	$2.10	$2.05	$2.15

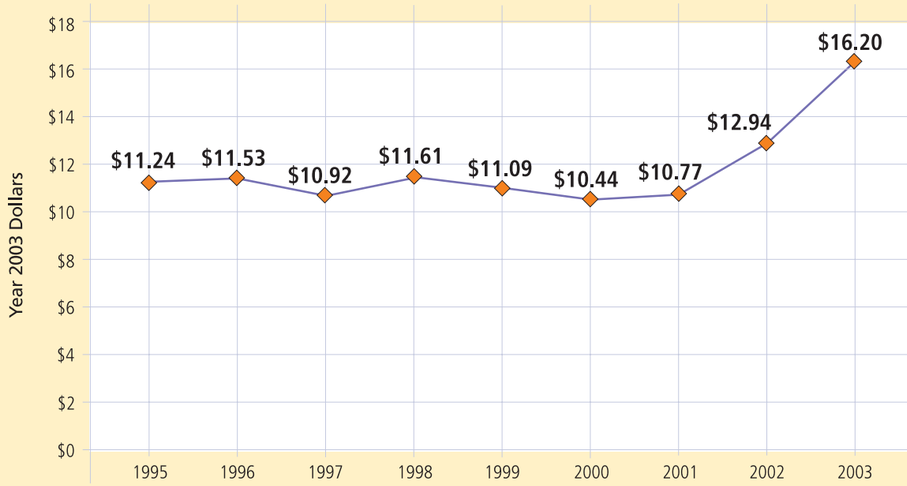
MTA Operating Cost per Passenger Mile



Fiscal Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
Marc	$.31	$.42	$.37	$.34	$.32	$.29	$.29	$.30	$.29
Light Rail	$.57	$.59	$.52	$.54	$.57	$.52	$.65	$.58	$.72
Metro	$.76	$.81	$.56	$.57	$.57	$.56	$.61	$.64	$.77
Bus	$.64	$.70	$.65	$.65	$.68	$.63	$.66	$.66	$.70

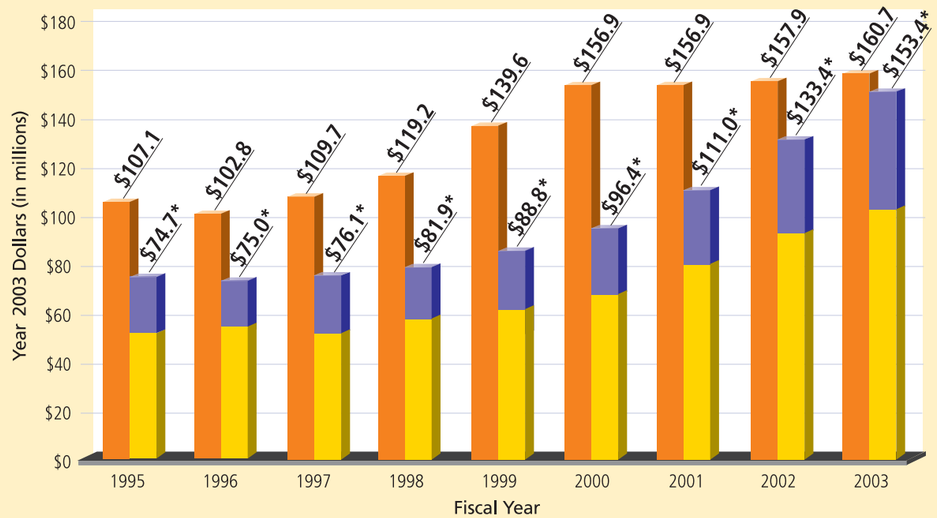
The MAA tracks BWI's operating cost per enplaned passenger in addition to tracking its operating revenues and expenses. BWI's operating cost per enplaned passenger has increased because the events of September 11, 2001 have resulted in fewer annual passengers and an increase in costs due to heightened security requirements. In addition, severe winter weather in Fiscal Year 2003 caused an increase in operating expenses. As a result of BWI's expansion program, debt service payments (non-operating expenses) have increased in recent years. But despite these additional costs, BWI's operating revenue continues to cover its operating expenses.

BWI Total Operating Expense* per Enplaned Passenger



* Operating Cost plus Debt Service equal **Total Operating Expense**.

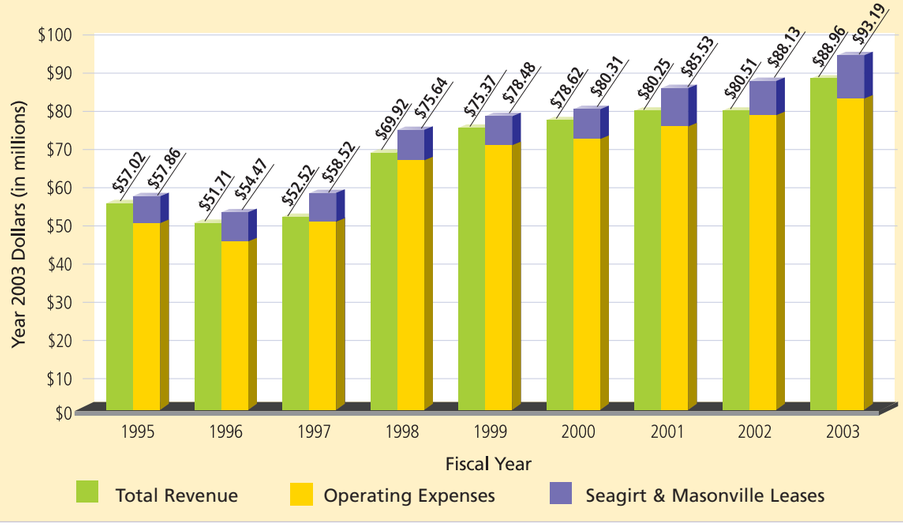
BWI Revenue versus Operating Expenses



* Operating Cost plus Debt Service equal **Total Operating Expense**.

The MPA acts as a landlord for some of the State's waterborne freight terminals and actively manages and operates others. The MPA covers a significant portion of its operating costs through port revenue. The recent increases in operating costs are due to insurance, increased stevedore costs and heightened security requirements; however, these costs have been offset, in part, by increases in revenues from annual cargo volumes. State revenues are used to keep the Port viable and contribute to the State's economy.

MPA Revenues vs Operating Expenses (less exemptions)



Summary

MDOT values its role as a transportation provider and actively communicates with citizens through surveys to measure the effectiveness of services delivered. At the same time, MDOT is using cost-effectiveness measures to evaluate its success in taking business-like approaches to make efficient use of limited resources. In many cases, efforts to control expenditures are reflected in decreased costs per service provided, such as a reduction in maintenance costs per lane mile and in the cost per transaction at MVA branches. In other instances, such as with MTA public transportation services, costs of service delivery per passenger have remained relatively steady. MTA is seeking to actively reduce these costs in future years by tracking performance. Consistent with the goal of productivity and quality, MDOT also continues to meet its commitment to the environment by going beyond the requirements of environmental mitigation and continues to support programs that can reduce transportation-related emissions that affect air quality.

Travel Demand Management

Maryland's transportation system includes a variety of State and local transportation demand management (TDM) strategies. Many of these strategies to reduce Maryland's growth of vehicle trips and vehicle miles of travel have been incorporated into air quality plans. In addition to improving air quality, TDM strategies can also play an important role in addressing congestion, environmental, safety, and quality of life issues associated with ever-increasing demand for automobile travel.

The following table shows the reduction in annual vehicle trips and vehicle miles of travel due to Transportation Emission Reduction Measures for the Baltimore and Washington Regions.

Transportation Emission Reduction Measures During 2002

Program	Daily Reduction in Vehicle Trips 2002	Daily Reduction in Vehicle Miles of Travel 2002
Telecommunication Resource Center	12,590	279,692
Employer Outreach for Bicycles	284	1,225
Employer Outreach	71,267	1,107,698
Guaranteed Ride Home	6,803	202,058
Commuter Operation Program	1,970	66,056
College 33 Program Bus	2,974	32,714
Telework Partnership	5,362	300,300
Transit Store in Baltimore	574	4,018
Commuter Choice	10,120	101,200
DASH Shuttle	1,961	5,564
Total	**113,905**	**2,100,525**

In addition to the Transportation Emission Reduction Measures that are listed above, programs such as roadway and parking price initiatives, commute trip reduction activities, high-occupancy vehicle lanes, transit improvements, rideshare programs, and land use and urban design are also part of the TDM strategies. The table at right indicates the coverage of park-and-ride facilities in the state, an indication of these types of programs.

Statewide Park-and-Ride Facilities

Operator	Total Spaces	Average Weekday Utilization
SHA	10,187	5,701
MTA	38,737	29,031

Induced Travel

As a part of the State Transportation Article, MDOT is required under the Annual Attainment Report provision "to the extent practicable, account for the effect of planned transportation investments on inducing automobile travel." This section describes recent research on induced travel and possible approaches for reflecting findings into the Department's planning efforts.

The consensus definition for induced travel in current use is any increase in daily travel (measured as passenger or vehicle-miles of travel) resulting from a change in the transportation system. Estimating induced travel has been a formal part of highway planning dating back to the 1930s when planners recommended a factor for "induced traffic" to account for the growth in population and employment, increases in vehicle ownership, or other changes that might cause traffic to increase greater than trends would suggest. This approach continued until the 1950s when sophisticated travel forecasting methodologies were developed to better account for population and employment growth, development density and car ownership. As a result, interest in induced travel waned until the 1990s when new research efforts were undertaken.

Research on induced travel is still evolving. Although strides have been made to define approaches to measure the effect of investments and capacity increases on total travel, it is still extremely difficult to determine conclusively the magnitude of induced travel, particularly at a system level. Few reliable studies have been completed and the limited availability of carefully collected "before and after" data makes its evaluation difficult. Much recent research concludes that there is a strong need to improve the capabilities and reliability of travel demand models, including land use data inputs. What is referred to as "induced travel" may in fact be the result of inadequate existing travel demand forecasting model structures, erroneous information regarding future land use changes, or simply shifts in travel from adjacent roadways.

From the review of the literature, several key observations relate to the practical requirement for MDOT's planning efforts to reflect induced travel.

- There is wide agreement that there is a component of travel that is induced, but that it is one element among many that influence the growth in travel.
- Different definitions of induced travel and measurement methods lead to a wide range of estimated induced travel relationships, both in the short-term and the long-term.
- There is no widely accepted method for measuring induced travel prospectively at the project level.

The existing travel demand forecasting approach continues to be improved and may, in the long-term, offer the opportunity for MDOT and other transportation planning organizations to isolate the effect of transportation improvements on changes in travel demand. In the interim, MDOT will benefit from continued investments in staff resources to support travel demand forecasting enhancements to address weaknesses in the forecasting approach that are in some cases, attributed incorrectly to induced travel. MDOT will continue to use state-of-the-art forecasting techniques in project planning while, at the same time, continue to monitor research on approaches to evaluate the effects of induced travel prospectively.

Summary

MDOT continues to face many challenges as it seeks to meet citizens' needs and the ever increasing demands for its transportation services and facilities. The information presented in this report illustrates many details of current performance of the Maryland transportation system. This section highlights some of the challenges of growth, the areas where MDOT is excelling, and areas that are of concern.

THE CHALLENGE OF GROWTH - Some highlights of recent growth in usage of Maryland's transportation system include:

- A 20 percent increase in vehicle miles of travel on state highways despite only a 4% increase in vehicle lane miles provided since 1995. Maryland's highways and roads now serve almost 54 billion vehicle miles annually.
- A 16 percent increase in public transportation ridership since 1995 (almost exclusively on WMATA).
- A 44 percent increase in passengers at BWI airport since 1995.

POSITIVE AREAS OF PERFORMANCE - Despite the challenges posed by such increases in customer demand, performance measures highlight MDOT's success in managing its transportation facilities and services. Across all four goal areas – efficiency, mobility, safety and security, and productivity and quality – there are highlights of good performance:

- Effective preservation and maintenance of the State's highways and bridges - more than 80 percent of state highway pavements are in good condition and less than four percent of Maryland's bridges on the National Highway System fail to meet Federal structural standards.
- Reduced delays on the Maryland Transit Administration's bus system, and steady on-time performance on the MARC commuter rail, MTA Metro Subway, and MTA light rail systems – supporting alternative means of travel.
- Continued high-quality port facilities that have helped maintain port activity in the State despite some periods of economic downturn.
- Limited delays in aircraft takeoffs and landings at BWI airport, despite strong growth in the number of passengers and flights.

- Aggressive implementation of new technologies that reduce delay and save time:
  - Incident management programs at SHA are estimated to have reduced passenger vehicle delays by more than 25 million hours in 2000;
  - Almost 40 percent of MdTA's customers are now using automated toll collection technology - increasing capacity and reducing delays on toll facilities; and
  - Alternative service transactions (mail, Internet, phone) now account for almost 40 percent of MVA transactions, resulting in fewer trips on the State's roads and saving time for MVA customers.
- Successful compliance with new Federal security requirements at BWI and MPA's port facilities.
- Reductions in fatality and injury rates on the State's highways.
- Greater emphasis on cost-effective and efficient service delivery by MDOT's modal administrations:
  - SHA has reduced the cost of roadway maintenance;
  - MTA has maintained its operating costs per passenger and per passenger mile; and
  - MVA has reduced the operating cost per transaction.

For each of these positive results, there is a need to maintain continued investment and innovation to sustain or improve the current level of performance.

PERFORMANCE AREAS OF CONCERN - In some cases, however, the demand for services coupled with budgetary constraints are creating strains on the transportation system. The following performance measures reflect these realities:

- Decline in customer satisfaction levels at Motor Vehicle Administration facilities since 2000 because of an increase in wait times;
- Since 2000, severe weather events and enhanced security requirements have driven up BWI operating costs, resulting in an increase in the operating cost per enplaned passenger; and
- Congestion has persisted and grown on the State's freeways and arterials, and congestion levels are projected to continue to increase because of population and employment growth – MDOT seeks to slow the increase in the coverage, duration, and severity of congestion on heavily traveled highways.

Performance measures identified in this report evaluate MDOT's success in meeting the goals and objective outlined in the Maryland Transportation Plan. As outlined in this report, in many cases, MDOT is successfully meeting the goals of the State's transportation plan, while in some instances, performance is less than desired. MDOT will continue to proactively identify programs, policies and infrastructure investments that will enhance the performance of the State's transportation system. Future reports will provide the public with an opportunity to gauge MDOT's success.

APPENDIX - LIST OF MEASURES

Mode	Goal	Performance Measure	Definition
MAA	Mobility	Average delay per aircraft operation at BWI Airport (take-offs & landings)	Average difference between actual time and scheduled time of aircraft operations (take-off & landings).
MAA	Productivity	BWI operating cost per enplaned passenger*	Operating costs include Program 02 Operating Expenses, Federal Operating Expenses, and restricted revenue for debt service.
MAA	Productivity	BWI revenue versus operating costs	Operating revenue includes collected fees, PFCs, CFCs, and Program 02 Federal Funds. Operating costs include Program 02 Operating Expenses, Federal Operating Expenses, and restricted revenue for debt service.
MAA	Safety	BWI compliance with FAA safety inspection*	Pass / Fail Rating
MAA	Safety	BWI compliance with TSA regulatory assessment for security certification	Pass / Fail Rating
MDOT	Productivity	Transportation related emissions by Region	Tons of Volatile Organic Compound (VOCs) and Nitrogen Oxide (NOx), precursors of Ozone, emitted per day for an average weekday from transportation sources in the Baltimore and Washington regions.
MdTA	Mobility	Percentage of vehicle trips on toll facilities served by E-ZPass℠	(Toll collections by E-ZPass℠ / total number of toll collections).
MPA	Efficiency	Percentage of time that accumulation of sediment in channels causes ship delay or reduction in draft	(Hours of delay or decrease in ship's draft / Total hours of ship operations)
MPA	Productivity	MPA revenue vs. operating costs	Total operating costs of MPA (less exemptions) and revenues collected through Port fees
MPA	Safety	Port compliance with Maritime Transportation Security Act 2002 mandates	Pass / Fail Rating
MTA	Efficiency	Percent of MTA service provided on time	Proportion of MTA services that meet scheduled service times (within three minutes for rail services and five minutes for buses)
MTA	Efficiency	Percentage of MTA bus routes with "successful" or "acceptable" performance*	Percentage of MTA bus routes that are ranked "successful" or " acceptable" based on 4 criteria: (1) passengers per vehicle revenue mile, (2) passengers per vehicle trip, (3) farebox recovery ratio, and (4) subsidy per passenger.
MTA	Mobility	Annual vehicle revenue miles of MTA service provided	Vehicle revenue miles are defined as each mile for which a transit vehicle is in service and accepting customers.

Mode	Goal	Performance Measure	Definition
MTA	Productivity	Customer satisfaction with MTA*	Average annual customer survey rating of their overall satisfaction with MTA services (bus, Metro, light rail, and MARC) on a 1 to 5 scale (1=poor to 5=excellent).
MTA	Productivity	MTA operating cost per passenger	(Operating cost for mode of transit service/ total passengers) Values calculated separately for MTA bus, Metro, light rail, and MARC.
MTA	Productivity	MTA operating cost per passenger mile	(Operating cost for each mode of transit service/ total miles traveled by passengers) Values calculated separately for MTA bus, Metro, light rail, and MARC.
MTA	Safety	Customer perceptions of the safety of the MTA system*	Average annual customer survey rating of the safety of MTA services (bus, Metro, light rail, and MARC) on a 1 to 5 scale (1=poor to 5=excellent).
MTA	Safety	Number and rate of injuries on MTA transit services	Number of injuries reported in the National Transit Database (NTD) for MTA bus, Metro, light rail and MARC services. Injury rate is calculated as injuries per million passenger miles.
MVA	Efficiency	Average MVA branch customer visit time*	Average visit time based on quarterly survey of customers.
MVA	Efficiency	Percentage of MVA transactions completed by alternative services	(Transactions by alternative services (using a means other than a visit to an MVA branch) / tracked transactions)
MVA	Productivity	MVA customer service rating "good" or "very good"*	Percentage of surveyed customers rating their MVA experience as "good" or "very good." Surveys conducted on a quarterly basis.
MVA	Productivity	MVA cost per transaction	(Capitalized costs / tracked transactions) Costs include operating and a share of capital program expenditures.
SHA	Efficiency	Percentage of SHA-maintained roads with acceptable ride quality*	Percentage of interstate miles with International Roughness Index (IRI) value less than 120 inches per mile and non-Interstate roadways with IRI values less than 170 inches per mile. IRI is a standardized procedure that measures the pavement roughness as the cumulative deviation from a smooth surface in inches per mile.
SHA	Efficiency	Reduction in incident congestion delay	Number of driving hours saved due to the Coordinated Highway Action Response Team (CHART) incident management system.
SHA	Mobility	Percentage of lane miles with average annual volumes below congested levels*	Percentage of interstate lane miles with an average annual density less than 20,000 vehicles per lane per hour (vplph) and percentage of arterials with an average annual density less than 10,000 vplph. Facilities with densities greater than these vplph levels will result in congested conditions.
SHA	Productivity	Percentage of customer survey responses rating SHA performance as "very good" or "outstanding"*	Percentage of survey respondents rating their "overall satisfaction" with SHA as a 'B' or better on an A-D scale. Survey conducted every three to four years.
SHA	Productivity	Maintenance expenditures per lane mile	(Maintenance expenditures / lane miles) Maintenance expenditures include routine landscaping, traffic signing, lighting and signal upkeep, but exclude unpredictable winter weather-related costs and resurfacing (e.g., asphalt overlays or patching concrete pavement).
SHA	Mobility	Peak period congestion on freeways in Baltimore/Washington regions*	Location of congested conditions based on vehicle speed. Data collected through a series of aerial photos.
SHA / MdTA	Efficiency	Percentage of SHA and MdTA NHS bridges meeting federal structural standards*	Percentage of National Highway System bridges that are not structurally deficient (i.e. meet Federal structural standards). "Structurally deficient" refers to a bridge that is restricted to light vehicular traffic, is closed, or requires immediate rehabilitation to remain open.
SHA/ MdTA	Safety	Number and rate of injury accidents on SHA and MdTA facilities*	Number of traffic accidents on SHA and MdTA facilities resulting in a personal injury. Injury accident rate is calculated as accidents per 100 million vehicle miles of travel. MdTA share of injury accidents is calculated from MdTA maintained records.
SHA/ MdTA	Safety	Number and rate of fatalities on SHA and MdTA facilities*	Number of fatalities on SHA and MdTA facilities that occur within 30 days of a crash. Fatality rate is calculated as fatalities per 100 million vehicle miles of travel. MdTA share of fatalities is calculated from MdTA maintained records.

* Performance measures also included in the 2003 Annual Attainment Report.

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