JANUARY 2014

2035 Maryland Transportation Plan

Moving Maryland Forward

Maryland Department of Transportation

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MDOT's Vision and Mission:

Provide a well-maintained, sustainable and multimodal transportation system that facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population and business centers.

2035 MTP Goals:

Safety & Security
Enhance the safety of transportation system users and provide a transportation system that is resilient to natural or man-made hazards

System Preservation
Preserve and maintain the State's existing transportation infrastructure and assets

Quality of Service
Maintain and enhance the quality of service experienced by users of Maryland's transportation system

Environmental Stewardship
Ensure that the delivery of the State's transportation infrastructure program conserves and enhances Maryland's natural, historic, and cultural resources

Community Vitality
Provide options for the movement of people and goods that support communities and quality of life

Economic Prosperity
Support a healthy and competitive Maryland economy

INTRODUCTION & CONTEXT

What is the Maryland Transportation Plan?

The Maryland Department of Transportation (MDOT) plans, builds, and operates an integrated, statewide, and multimodal transportation system composed of road, bus, rail, air, water, bicycle and pedestrian facilities, and driver and vehicle services that help people and goods move safely and easily both within and outside the State.

This MTP introduces a new, region-based framework for transportation planning across the State

The 2035 Maryland Transportation Plan (MTP) looks 20 years into the future to identify the State's most critical transportation needs and challenges, and provides a framework for how to address them via statewide goals, objectives and strategies. The MTP serves as MDOT's guiding policy document. It incorporates related State goals for sustainable growth, the economy, and the environment, as well as modal agency transportation plans and public input. The MTP also establishes implementing principles and priorities to be used in making decisions about the Consolidated Transportation Program (CTP) and how and where to direct Maryland's transportation investments.

This MTP introduces a new, region-based framework for transportation planning across the State that expands on high-level statewide goals and objectives by providing more specific guidance on appropriate strategies for the different regions and "place types" that exist across Maryland. The 2035 MTP acknowledges that Maryland's transportation needs vary from place to place and that careful consideration should inform transportation infrastructure policies and choices in the context of regional characteristics.

The MTP's region-based framework will help Maryland continue to make informed decisions about how to allocate transportation funding across the State. The 2035 MTP was developed with extensive public and stakeholder engagement, including stakeholder roundtable workshops and an online public survey that helped MDOT better understand Marylanders' opinions about priorities for transportation across the State. The MTP also incorporates performance measures for evaluating progress toward achieving the Plan's goals.

Developing the MTP

In accordance with State and federal statutory requirements, MDOT updates the Maryland Transportation Plan every five years to reflect changing transportation challenges and conditions. The MTP development process includes:

- Public engagement with Maryland's citizens and transportation stakeholder groups;
- Technical analysis of Maryland's transportation-related conditions, needs and plans;
- Consultation with State and modal agency leaders;
- Coordination and dialogue with Metropolitan Planning Organizations (MPOs) and local planning organizations; and
- Analysis of issues that will shape future conditions and the performance of Maryland's transportation system.

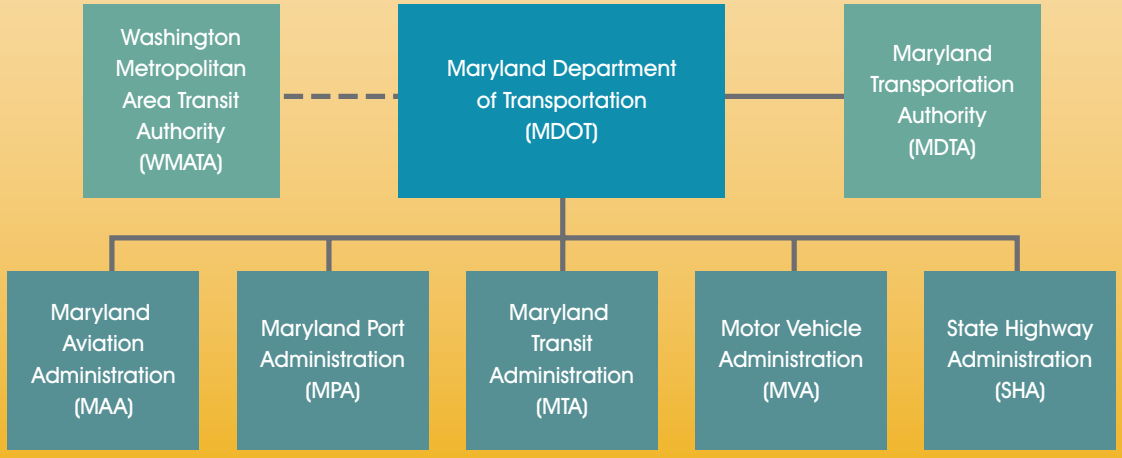
MDOT's 2035 MTP update was guided by an internal Steering Committee composed of representatives from each of Maryland's modal administrations and the Maryland Transportation Authority (MDTA). It also benefitted from the advice of a stakeholder advisory committee whose primary charge was to provide input on the development of performance measures associated with the Plan.

The MTP is one component of the annual State Report on Transportation, which also includes the Consolidated Transportation Program (CTP) and the Attainment Report (AR) on Transportation System Performance. The CTP is Maryland's six-year capital budget for transportation projects, and the AR annually tracks MDOT's progress towards achieving the goals and objectives of the MTP using performance measures.

MDOT and Its Modal Agencies

Under State and federal law, MDOT has responsibility for coordinating statewide transportation planning across all modes of transportation including the State's highway, transit, rail, freight, pedestrian and bike networks; the BWI Thurgood Marshall Airport and Martin State Airport; the Port of Baltimore, and driver and vehicle services. MDOT oversees five modal administrations, each of which has unique functional responsibilities for providing facilities and services across Maryland.

In addition, MDOT's Secretary is the Chairperson of the Maryland Transportation Authority (MDTA), the State's toll authority, and MDOT financially supports the Washington Metropolitan Area Transit Authority (WMATA) which provides transit services in the metropolitan Washington region. MDOT works closely with its modal administrations, MDTA and WMATA to continuously implement coordinated transportation strategies to keep Maryland's residents and businesses moving.



The State of Maryland's Transportation System

Maryland's transportation system provides a comprehensive, multimodal network of safe and accessible transportation facilities and services for the State's residents and businesses. Key elements of Maryland's statewide transportation system (see map on page 7) include:

- **Highways and Bridges** – Maryland has a comprehensive state and local roadway system of 32,372 centerline miles including: 784 miles of Interstates and freeways; 1,534 miles of principal arterials; 7,342 miles of minor arterials and collectors; and 21,500 miles of local roads.[1] In addition, there are more than 5,000 bridges across the State, including 2,712 on the State Highway system.[2] Maryland's State-owned roadways handle over 56 billion vehicle miles of travel on an annual basis including some of the busiest highways in the country in the Washington and Baltimore metropolitan regions.[3]

Maryland's State-owned roadways handle over 56 billion vehicle miles of travel on an annual basis

- **Heavy Rail Transit** – The Maryland Transit Administration (MTA) operates MARC commuter rail service in the Baltimore and Washington regions. The State is also served by Amtrak's Northeast Corridor intercity rail service, which connects Maryland's major urban centers with other cities in the Northeast and beyond. In fiscal year (FY) 2013, MARC carried approximately 9.1 million passenger trips and 2.0 million Amtrak passengers arrived or departed from Maryland stations.[4]
- **Other Transit** – Other transit service in Maryland includes urban core Local Bus, Light Rail and Metro Subway transit in metropolitan Baltimore (operated by MTA); Metrorail and Metrobus transit in metropolitan Washington

(operated by WMATA); an extensive commuter bus network; and 24 locally operated transit systems across the State. In 2012, Maryland's non-heavy rail transit systems handled 114 million trips on State and locally operated buses, 23.8 million trips on Baltimore's Light Rail and Metro Subway, 1.9 million trips on para-transit vehicles and 124 million rail, bus and para-transit trips on the Maryland portion of the WMATA system.[5]

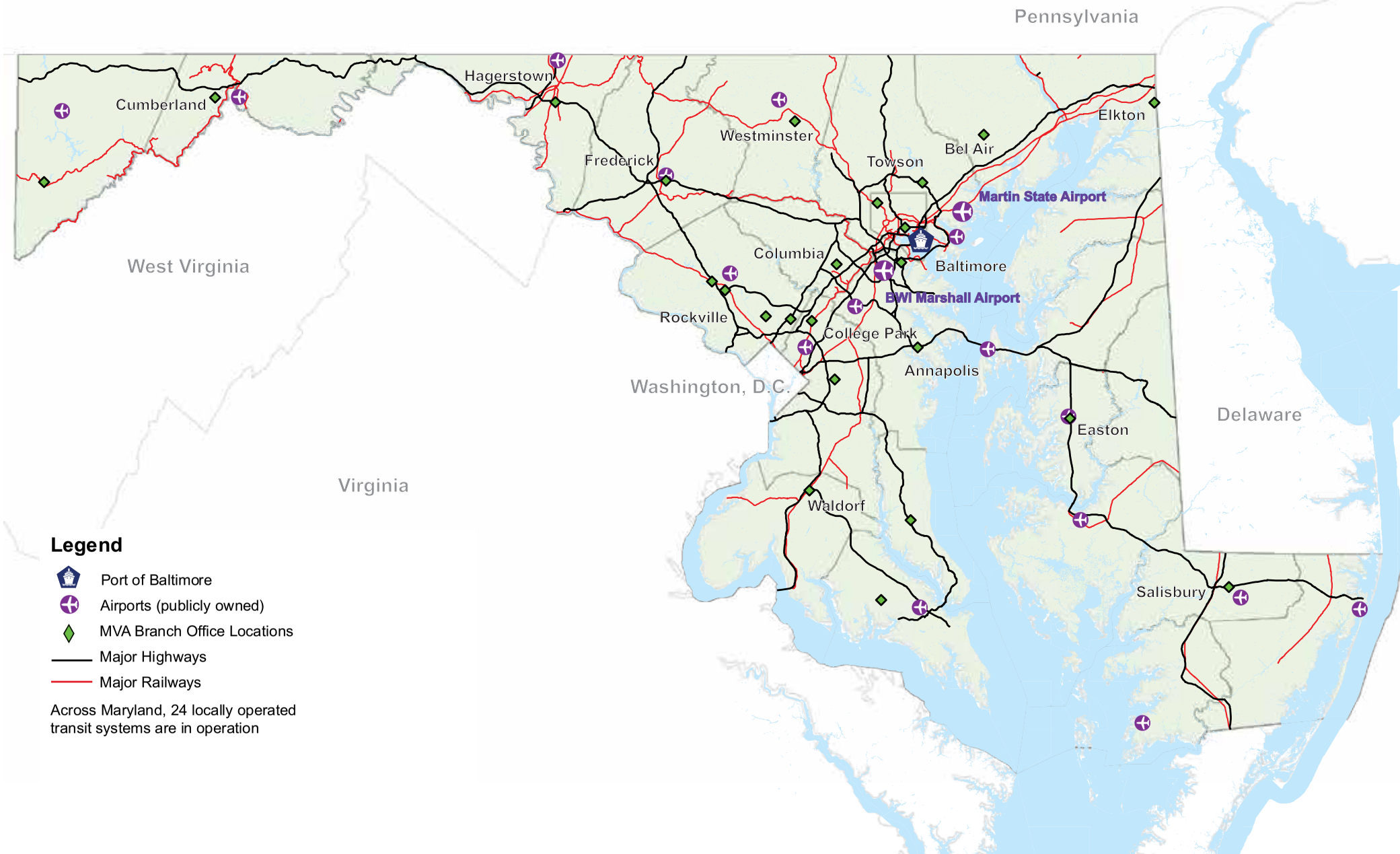
- **Aviation** – Maryland's air travel system includes BWI Thurgood Marshall Airport (BWI Marshall) and Martin State Airport (both operated by the Maryland Aviation Administration (MAA)), 18 publicly owned general aviation airports and 18 private airports open for public use. More than 22 million passengers travelled through BWI Marshall Airport to domestic and international destinations in 2013.[6]
- **Water and Ports** – The Port of Baltimore, which includes seven State-owned public terminals that are managed by the Maryland Port Administration (MPA), is a vital link for raw materials and manufactured goods moving into and out of Maryland. The Port of Baltimore is ranked first in the nation in a number of categories including handling farm and construction machinery, autos, trucks, imported forest products, imported sugar, imported iron ore and imported gypsum. Total general cargo at MPA's public terminals reached 9.6 million tons in FY 2013, an increase of 2.3 percent over FY 2012 and a new record high.[7]
- **Pedestrian and Bicycle Transportation** – Biking and walking are important travel modes, particularly in Maryland's urban centers. Bicycling in Maryland accounts for 0.28 percent of all commute trips and walking accounts for 2.43 percent of all commute trips; biking and walking also play a key role in supporting the 9.3 percent of Maryland commute trips made by public transit.[8]
- **Driver and Vehicle Services** – The Motor Vehicle Administration (MVA) provides services for titling, registration, and licensing of vehicles and drivers at MVA headquarters, its branch offices, 24-hour website access and MVA e-kiosks throughout the State. MVA regulates and monitors over 4.1 million licensed drivers and 4.8 million registered vehicles traversing Maryland's roadways. Over 12.2 million MVA transactions were processed in FY 2013, including eMVA and walk-in transactions at MVA's branch office locations. In addition, the MVA provides leadership, coordination and administration of the State's highway safety program.[9]
- **Freight** – In addition to goods movement by water, air and highways, Maryland's transportation system includes two privately owned and operated Class I railroads, as well as a number of State and privately owned short line railroads. Each year, 53 tons of freight per person originates or terminates in Maryland, including everything from low value scrap paper to pharmaceutical shipments worth millions of dollars per trailer load.[10]

Maryland's Critical Transportation Challenges

Dialogue with stakeholders, input from MDOT's modal agencies, and review of pertinent data and plans has helped MDOT identify eight critical challenges that will greatly influence Maryland's transportation needs over the next 20 years. Maryland's 2035 MTP sets the agenda for a 'next generation' transportation system that can address these critical challenges and ensure Maryland remains a great place to live, work and do business.

- **Safety for All Users** – Despite modest growth in travel on Maryland's transportation system, the number of people killed or injured in crashes has declined. Continuation of that trend is not guaranteed, however, and 511 people were killed on Maryland roads in 2012.[11] Safety in Maryland must continue to be a collaborative effort that brings together MDOT, its modal agencies, law enforcement, public health officials, and advocacy organizations. Pedestrians and bicyclists are a growing and particularly vulnerable set of users of the transportation system, and pedestrian and bicyclist fatalities and serious injuries have generally not decreased at the same rate as overall fatalities and serious injuries.
- **Aging Transportation System Assets** – Spending to preserve infrastructure conditions across all modes has been a high priority in Maryland. This approach has helped lower the number of 'structurally deficient' rated bridges on the SHA system to 101 bridges statewide, or 3 percent of all bridges.[12] Without a robust system preservation program, preservation needs could grow quickly on Maryland's aging transportation system.

Maryland's Transportation System



Improving sidewalks, like this one in Howard County, makes travel safer for pedestrians

For example, routine channel dredging is necessary to keep the Port of Baltimore open to shipping. Absent adequate investment in preservations actions, the State could also see rougher roads, more truck detours on weight-restricted bridges, and poorer transit vehicle reliability, which could result in additional time and costs for transportation system users, undermine user satisfaction, and damage Maryland's economic competitiveness.

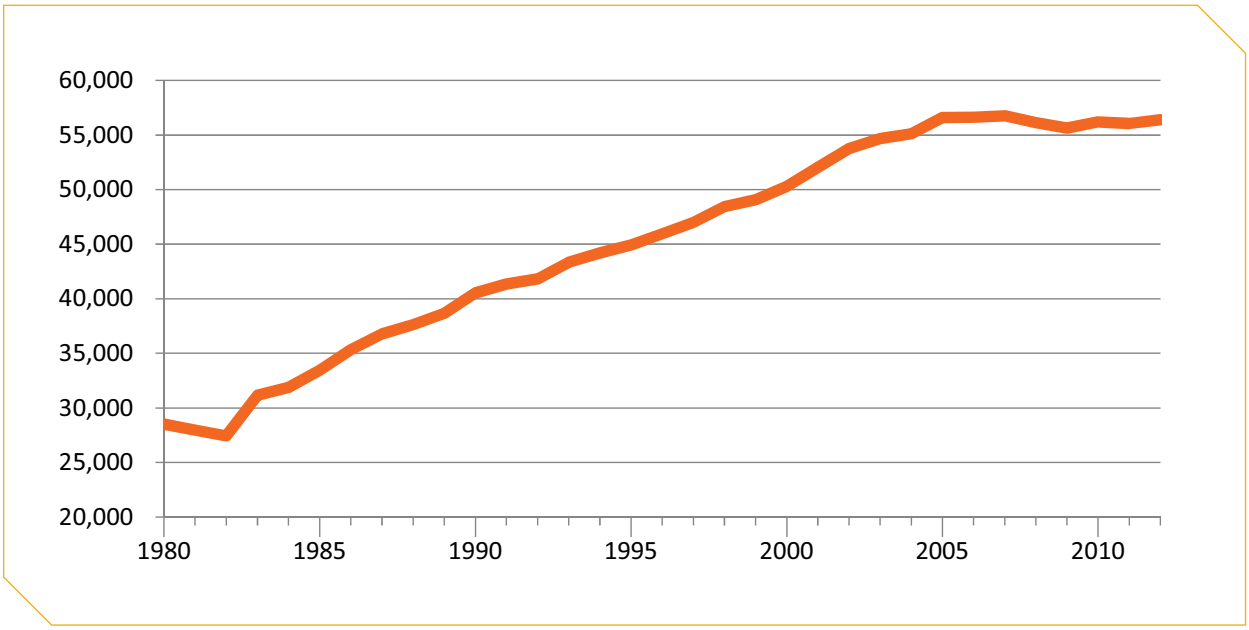
- **Changing Demographic, Economic & Travel Patterns** – Maryland is a growing state; between 2000 and 2012, its population grew by 11 percent to 5.9 million.[13] A 15 percent increase in population to 6.75 million people is forecast by 2035,[14] with the largest share of future growth expected to occur in the metropolitan Washington region. By 2035, 20 percent of Marylanders will be over 65, up from 12 percent in 2010. The aging population also means that Maryland's labor force participation rate will drop to around 64 percent in 2035, down from nearly 70 percent in 2010, despite anticipated growth in the working elderly.[15]

Historically, travel growth has outpaced population growth in Maryland. Since 2005, however, total vehicle miles traveled (VMT) in the State has held steady at around 55 to 56 billion miles per year (see chart of annual Maryland VMT on page 8). Demographic and economic trend data suggest a return to strong annual VMT growth is unlikely and per capita VMT in Maryland is actually decreasing after decades of growth. The reasons for this decline are unclear, but are likely influenced in part by the downturn in the economy and declining labor force participation rates, both of which reduce work-trip related travel demand. By contrast to flat VMT growth, average weekday transit ridership (all modes) in Maryland grew from around 320,000 riders per month in 2006 to 366,000 riders per month in FY 2012, representing a 14 percent increase.[16]

- **New Technologies for Transportation** – New technologies are changing the way Marylanders travel. All electronic tolling, real-time travel data and online driver services, for example, are making travel more convenient. Meanwhile, mobile devices stream real-time information about transit service routing and roadway congestion to help users plan their trips and mode of transportation accordingly. In terms of vehicle technology, new improvements in affordable, fuel-efficient and reliable hybrid and electric powered trucks and cars are resulting in reduced greenhouse gas emissions. Technology is also changing the travel patterns of many Maryland businesses. Online retailing, for example, is increasing the importance of 'just-in-time' delivery capabilities that depend on rapid goods movement, while teleworking is an increasingly viable option for businesses and their employees, giving workers the opportunity to reduce commutes and help relieve rush hour congestion.

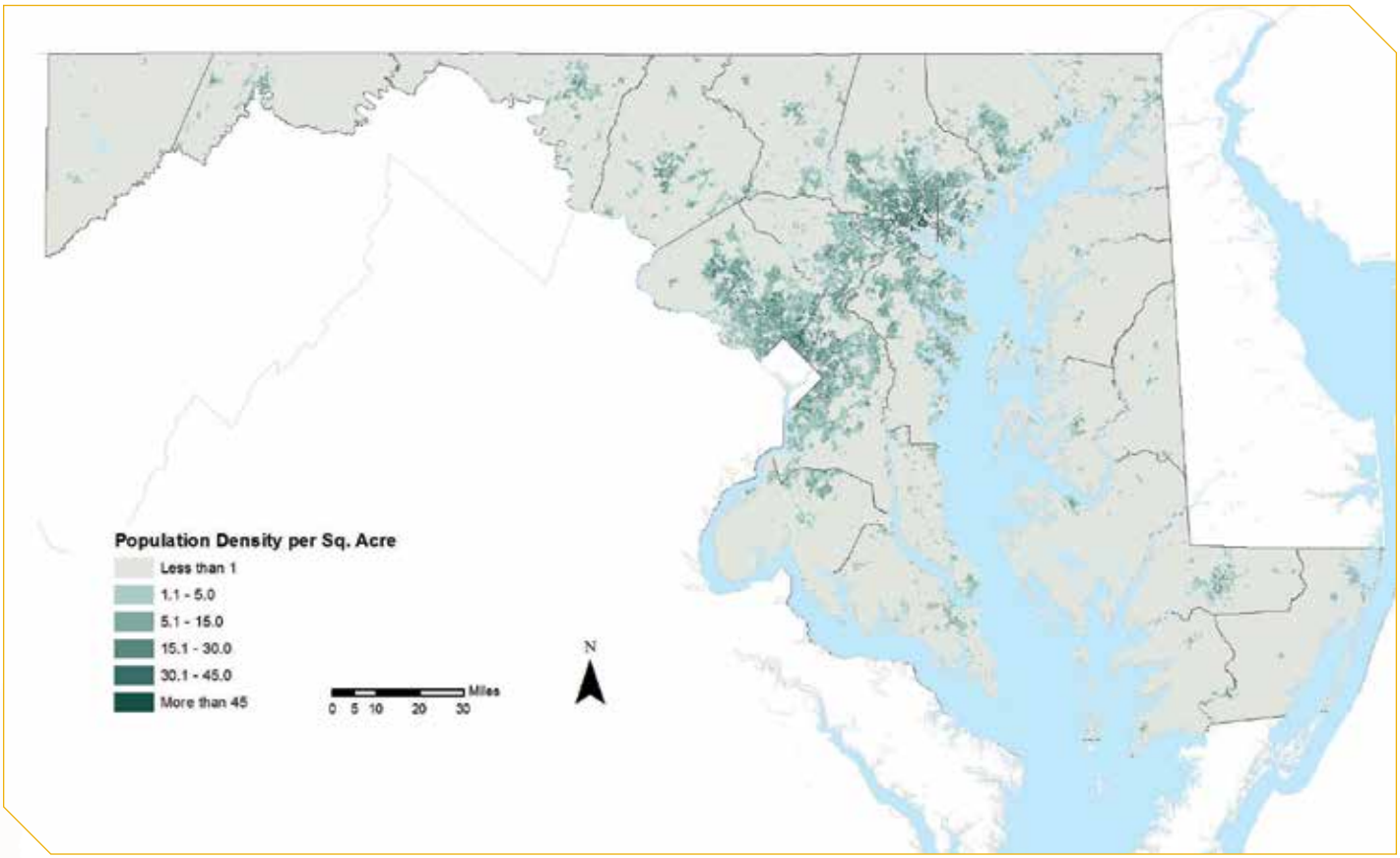
All-electronic tolling technology makes travel faster

Annual Total Maryland Vehicle Miles of Travel (in Millions) — 1980 - 2012



Source: Maryland SHA

Maryland's Population Density — 2010



Source: US Census Bureau

- **Supporting Community Quality of Life and Wise Land Use Choices** – Choices about transportation infrastructure influence the livability of Maryland's communities. Marylanders attending MTP outreach meetings often referenced the importance of creating an integrated and multimodal transportation system that offers choices for everyone, as well as the need to support revitalization of existing communities with appropriate transportation investments. It was observed that dispersed land use patterns further burden the State's transportation system by contributing to congestion, and making access via transit and non-motorized forms of travel more difficult. Maryland is the fifth most densely populated state in the country. Moreover, several jurisdictions (including Montgomery, Prince George's, Baltimore and Anne Arundel Counties, as well as Baltimore City) have particularly high population densities, with about 1,860 people per square mile, and are characterized by even higher densities in their urban centers (see Maryland population density map on page 8). These levels of density present Maryland with a tremendous opportunity to achieve greater system efficiencies through investment in transit and non-motorized travel, which can result in relieving congestion, enhancing the environment and supporting the State's economy. The concentration of population and economic activity in central Maryland provides great opportunities; however many jurisdictions are also characterized by a pronounced imbalance between jobs and housing. Outlying areas in the central part of the State, for example, tend to have many more households than jobs, which encourages long-distance commuting by car.

Transit in densely populated areas of Maryland helps reduce congestion and air pollution

- **Managing Congested Infrastructure** – Transportation facilities, in particular major highways that serve the State's most populous regions around Baltimore and Washington, have become more crowded as these areas have experienced steady population growth. Congested highways signal economic prosperity, but they also make travel times for businesses and individuals longer and less reliable, which increases the cost of transportation and threatens economic prosperity by impairing access to jobs and markets. For 2011, the economic impact of congested freeways was estimated at $1.49 billion, or $466 each year per worker in Maryland's labor force.[17]

  For the long term, Maryland's congestion solutions must integrate highways and transit with land use decision-making, so that the public and businesses have multimodal options that meet their needs. With a growing population forecasted, Maryland will need to seek to accommodate travel demand by supporting more modal choices and by finding ways to make travel times more predictable and reliable.

In 2011, congested freeways cost the Maryland economy $1.49 billion in delays and added fuel use

- **Building Foundations for Economic Prosperity** – Maryland's economy is emerging from the effects of a deep national recession. Across the State, however, safe, efficient, and accessible multimodal transportation options for workers and freight are recognized to be a foundation for economic recovery in the short-term and a route for returning to prosperity in the longer term.

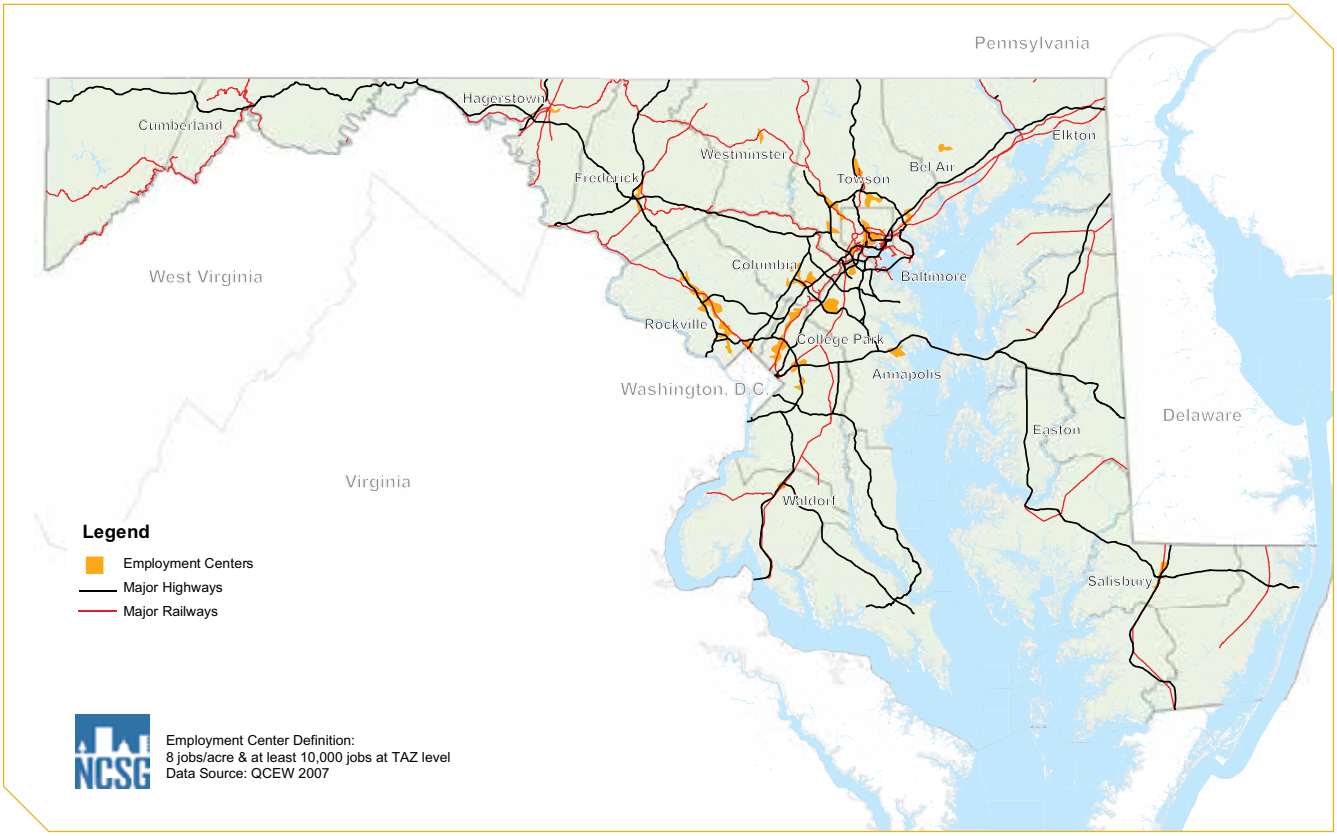
  Forty-two percent of all Maryland's jobs are located in 23 employment centers, which occupy just over one percent of the State's land area, with most of these job clusters located in the Baltimore and Washington metropolitan regions, as shown in the Maryland Employment Centers map on page 10.[18] Likewise, businesses and organizations that rely on truck freight movement are concentrated along the State's I-95 corridor and around the Baltimore and Washington beltways.

Congested travel conditions reduce efficiency of the transportation system and impose economic costs, but dense clusters of population and jobs can be served efficiently by transit that relieves pressure on the highway system. The path for maintaining economic prosperity clearly will require ensuring reliable access to jobs and markets in Maryland, which will involve balanced investment in all travel modes.

To improve Bay water quality, Maryland is retrofitting infrastructure assets, restoring streams and wetlands, and reducing impervious surfaces

- **Assuring Environmental Quality** – Greenhouse gas (GHG) emissions and nutrient loading in the Chesapeake Bay are two of Maryland's highest transportation-related environmental priorities. The transportation sector is the State's second largest contributor of GHG emissions, contributing 34 percent of all GHGs, according to the latest statewide inventory.[19] Untreated runoff from pavements harms the health of the Bay, which is an irreplaceable environmental, economic and cultural amenity for the State. To reduce runoff, the Maryland Department of the Environment (MDE) and other state and federal agencies, along with Maryland's transportation agencies, are retrofitting infrastructure assets, restoring streams and wetlands and reducing impervious surfaces. Implementing these strategies will be expensive, but is necessary to ensure that the Bay can continue to be a healthy, vital and productive resource for the State in the future.

Maryland's Employment Centers



Source: University of Maryland, National Center for Smart Growth Research and Education

Maryland's Transportation Needs and Revenues

Transportation Needs

Maryland defines transportation needs as the projects and services required to operate and maintain the current transportation system, as well as the expansion of services and infrastructure necessary to meet the State's growing population and the associated demand for travel. These costs include system operation, maintenance, preservation and expansion as provided by MDOT's five modal agencies and Maryland's share of WMATA's system. The MDTA's operations and needs are funded separately, primarily through tolls and concessions revenues. Operating and maintenance needs include the costs of service for 114 million annual transit trips on MTA's buses, heavy rail, light rail, commuter rail, and para-transit vehicles; operations and maintenance of thousands of roadway lane-miles; dredging for the Port of Baltimore; and continued funding for many other system necessities.

The Impact of Federal Aid on State Transportation Investment

Federal aid typically represents about 19 percent of the total funding in Maryland's Transportation Trust Fund (TTF), and supports the multimodal investments in the State's six-year Consolidated Transportation Program (CTP). Most of the federal funds received by MDOT come from the Highway Trust Fund (HTF) which provides transportation investment for projects in the following areas: highways and transit, multimodal freight, safety and security, system preservation, bike and pedestrian, and congestion mitigation.

Enacted in July 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) is a two-year, $105 billion authorization that continues funding for highway, transit and other multimodal projects through FFY 2014. MDOT expects to receive approximately $585 million in highway formula funding and $200 million in transit formula funding in FFY 2014, the same funding levels provided in FFY 2013. MAP-21 included policy changes, consolidated program funding categories, and provided funding certainty through FFY 2014. However, MAP-21 did not address the long-term solvency of the HTF, which continues to constrain MDOT's ability to plan for future investments throughout the State.

Since FFY 2008, Congress has transferred approximately $53 billion in general funds to the HTF to address the continuing imbalance in the HTF between revenues and spending. Additional general fund transfers will become increasingly difficult to achieve as Congress must find cuts in other program areas to offset any transfer of general funds to the HTF. According to the Congressional Budget Office, if Congress does not address the current gap between HTF revenues and planned outlays, they will need to drastically reduce the amount of highway and transit aid provided to states in FFY 2015. If Congress does not raise additional revenues for the HTF, or provide a General Fund transfer, MDOT will need to address how the reduction in federal funding will affect projects that are currently programmed in Maryland's six-year CTP. Given the fiscal concerns regarding the soundness of the HTF, MDOT will continue to assess this risk and work with the Maryland Congressional Delegation to address the potential impacts on Maryland's transportation system.

Transportation Revenues

Transportation needs in Maryland are funded from an integrated account called the Transportation Trust Fund, which was created in 1971 to establish a dedicated fund to support MDOT. The use of this integrated trust fund approach allows Maryland tremendous flexibility to meet varying transportation service and infrastructure needs. The continuing commitment to meeting these needs has provided Maryland with the excellent infrastructure system necessary to support the economic growth of the State.

All activities of MDOT are supported by the Transportation Trust Fund, including debt service, maintenance, operations, administration, and capital projects. Unexpended funds remaining in the Trust Fund at the close of the fiscal year are carried over and do not revert to the State's General Fund. All funds dedicated to MDOT are deposited in the Trust Fund, and disbursements for all programs and projects are made from the Transportation Trust Fund. Revenues are not earmarked for specific programs. The allocation of

funds to projects and programs is made in conjunction with State and local elected officials based on transportation needs. Financed solely by toll revenue, the MDTA is an independent State agency that finances, owns, operates and maintains the State's eight toll facilities. Revenues from the MDTA's two turnpikes, two tunnels and four bridges are separate from the State's General Fund and Transportation Trust Fund and are reinvested into operating and maintaining MDTA's facilities.

The Transportation Trust Fund permits the State the necessary flexibility to meet the needs of a diverse transportation system. Although Maryland was one of the first states to have an integrated trust fund, it is a model replicated by other states. By working closely with bond rating agencies and maintaining financially prudent criteria regarding the Trust Fund, MDOT maintains one of the highest credit ratings given to transportation agencies.

Revenue Increase

The Transportation Infrastructure Investment Act of 2013 (Transportation Act) substantially increased and advanced Transportation Trust Fund revenues. Among the major changes that the landmark bill introduced are: an increase in state motor fuel taxes; the indexing of principal revenue streams (e.g. motor fuel taxes and MTA passenger fares) to inflation; and restrictions on the transfer of funds from the Trust Fund to the State's General Fund.

Funding Priorities

MDOT's highest priority is to operate, maintain, and preserve its existing transportation infrastructure in a state of good repair. MDOT ensures that all necessary debt service and contractual obligations, operating and maintenance (O&M), and system preservation needs are addressed first, prior to funding new capital enhancement and expansion projects. As such, MDOT's total estimated O&M and system preservation needs are assumed to be completely funded through FY 2035. The amount required for these needs is subtracted from the total revenue forecast to estimate the amount of funding that is forecast to be available for strategic investments in enhancement and expansion – new roads, growth in freight network assets, construction of new rail lines, and other investments that enhance the quality of service and/or expand the capacity of the transportation system. This capital programming approach ensures that capital enhancement and expansion projects are not pursued at the expense of maintaining or preserving existing transportation assets.

Partnerships

While the Transportation Act provides a significant boost to the Transportation Trust Fund, demand for transportation infrastructure and services is still projected to exceed MDOT's ability to fund all desired improvements. When coupled with more conservative assumptions about the future availability of federal transportation funding, it is important to note that partnerships with State and local agencies, and increasingly with private entities, are crucial to ensuring needed projects go forward. MDOT partners with local governments to coordinate priorities, and works within a regional context to identify funding to support local transportation improvements. During the 2013 Legislative Session, leadership in the Maryland General Assembly worked with MDOT to enact a comprehensive Public-Private Partnership (P3) statute. The legislation provides for greater opportunity for MDOT to undertake P3s that can leverage MDOT resources to build projects such as the Purple Line and the Red Line transit-ways, as well as advance more large projects than traditional funding sources would allow.

In FFY 2013, Maryland received approximately $580 million in federal funding for highways and $200 million for transit; a small fraction of the amount required to meet basic needs

What Marylanders Say about the State's Transportation Future

Conducting stakeholder outreach is critical to developing any long-range transportation plan. In developing the 2035 MTP, MDOT employed outreach techniques that both communicated agency information and gathered stakeholder input. The opinions stakeholders expressed have helped MDOT affirm and refine the mission, vision, goals, objectives and strategies that form the MTP's framework.

Stakeholder Roundtable Workshops

At four roundtable workshops held across the State as part of the MTP's development (see sidebar), participants had an opportunity to express their opinions about goals and objectives for the State's transportation system and to suggest strategies for achieving them. In general, the six goals proposed for the MTP received strong public support; the 'community vitality' and 'quality of service' goals in particular attracted widespread endorsement. In addition, the following themes express the most frequently discussed issues during the roundtable workshops:

Roundtable participants at four MTP workshops frequently discussed the importance of multimodal transportation connections

- **More multimodal connections** – Roundtable participants frequently discussed the importance of multimodal transportation connections in both rural and urban settings.
- **Use technology to solve problems** – Technology was often raised as a partial solution for fixing transportation challenges alongside infrastructure solutions.
- **Find sustainable funding sources** – Many participants expressed concern about the importance of assuring that Maryland has sustainable sources of funding for transportation and using transportation dollars wisely.
- **Link land use and transportation investment** – Across roundtable settings, participants strongly emphasized tying transportation investment to the environment and land use, particularly as a way to encourage people to live nearer where they work.
- **Maximize value from existing infrastructure** – Many participants indicated that transportation investment should emphasize improvements to existing infrastructure to get the most out of existing systems and improve economic prosperity and quality of life in Maryland's communities.
- **Use infrastructure investment to improve the economy** – Participants discussed both making investments as cost-effective as possible and targeting investment to support job creation and the economic vitality of the State.

Online Survey

The opinions of more than 2,100 stakeholders were heard via a digital survey conducted by MDOT, which point to the following conclusions:

- **Stakeholders value 'Community Vitality' over other goals** – Respondents to the survey most frequently ranked 'community vitality' as their number one transportation goal; however, all goals received widespread support.
- **Stakeholders' highest rated strategies** – For each goal area, survey results indicate stakeholders' highest priority transportation strategies:

Community Vitality – Support policies and projects that encourage sustainable development (e.g., relatively high density, mixed use and/or transit-oriented development) that offer alternatives to single occupant vehicles and support existing communities;

Safety & Security – Invest in targeted safety improvements at high crash locations;

Quality of Service – Invest in enhanced public transit services to facilitate access in and around population and employment centers;

Environmental Stewardship – Invest in building "green" highways that include features like recycled pavement, energy efficient lighting or best management practices for improving water quality;

Economic Prosperity – Invest in improving transit access to major employment and commercial centers; and

System Preservation – Invest in repairing, maintaining or replacing aging bridges and pavements.

Respondents to MDOT's MTP survey most frequently ranked 'community vitality' as their number one transportation goal

Public Engagement

Online Communication – In developing the 2035 MTP, MDOT shared information via a dedicated MTP webpage, e-newsletters sent to over 3,000 stakeholders, and occasional updates shared on MDOT's Twitter feed.

Stakeholder Presentations and Meetings – MDOT staff and leaders kept key stakeholders informed throughout the MTP development process with presentations and face-to-face meetings.

Stakeholder Roundtable Workshops – 'Round-table' dialogues were held across the State. Roundtable invitations were sent to a database of 3,000 individuals, and posted on MDOT's MTP web site. About 200 participants came to roundtables in:

- Frederick
- Chestertown
- Hanover
- Greenbelt

Participants ranged from representatives of local, regional, state or federal agencies, advocacy groups, non-profits and private companies to private citizens.

Online Survey – Engagement with citizens across the State was also achieved via an online survey. The survey was launched in February 2013 for a 3-month period. It was promoted via MDOT's MTP website, Twitter feed, Facebook notifications, and email announcements to the MTP stakeholder list. In addition, 24 library systems covering the entire State were engaged to promote the survey by announcing it on their web sites and in branch locations. By the conclusion of the survey period, over 2,100 respondents from every corner of the State had taken the survey.

MDOT Vision and Mission

The 2035 MTP's vision, mission, goals and objectives provide a strategic framework for MDOT to make future transportation decisions and investments.

MDOT's **Vision and Mission** is to provide a well-maintained, sustainable and multimodal transportation system that facilitates the safe, convenient, affordable and efficient movement of people, goods, and services within and between population and business centers.

MDOT's vision and mission provide a high-level perspective of what the agency hopes to achieve for the transportation system in the future, working with its state, local and federal partners, and within the context of related statewide growth, resource protection and planning goals, policies and plans.

MTP Goals

The 2035 MTP presents six goals that support the achievement of MDOT's vision and mission. These goals will guide MDOT in tackling the State's biggest transportation challenges over the next 20 years. Each goal incorporates a set of objectives, and an illustrative list of recent accomplishments and ongoing activities associated with each goal is provided for context.

Safety & Security

Enhance the safety of transportation system users and provide a transportation system that is resilient to natural or man-made hazards

MTA's mobile incident command center equips the agency to handle its emergency response functions

Objectives:

- Reduce the number of lives lost and injuries sustained on Maryland's transportation system.
- Provide secure transportation infrastructure, assets and operations for the safe movement of people and goods.

Accomplishments and Ongoing Activities:

- In Maryland, work zone-related crashes, fatalities and injuries are at a more than 10-year low according to 2011 crash data. Since launching SafeZones in 2010, speeding violations in SafeZones construction sites have decreased by more than 80 percent and fatalities in work-zone crashes have decreased by more than half (from nine in 2009 to three in 2011). In the same timeframe, the number of people injured decreased from 827 to 688 and overall work zone crashes decreased from 1,685 to 1,486.
- There has been a 15 percent reduction in injury crashes on Maryland highways from 2007 to 2012 and a 15 percent reduction in the average of all crashes per year during the last five-year period (2008-2012) compared to the previous five-year period (2003-2007).

- Recent investments to enhance public safety and security include a $108 million terminal modernization program at BWI Marshall Airport. The project creates a new state-of-the-art passenger security screening area between Concourses B and C; widens a portion of Concourse C to increase the width of the main egress corridor; provides for a post-security connection between Concourses A, B and C; and makes improvements to enhance compliance with modern building codes. BWI Marshall is also in the midst of a $48 million upgrade to various elements of its security network including enhancements to its video monitoring capability and access control system.
- Maryland has a robust truck and bus commercial vehicle enforcement and compliance program, ranking in the top 10 states nationwide for inspections. In 2012, 111,723 commercial vehicle inspections helped to reduce the number of trucks with deficiencies on Maryland's roadways and encourage professional drivers to operate safely as they share the roads with passenger vehicles. In addition, SHA is seeking to provide additional truck parking capacity at key locations across the State, including the construction of 40 new truck parking spaces along a critical stretch of I-95 between the Capital and Baltimore Beltways, thereby tripling the number of spaces at that location.

System Preservation

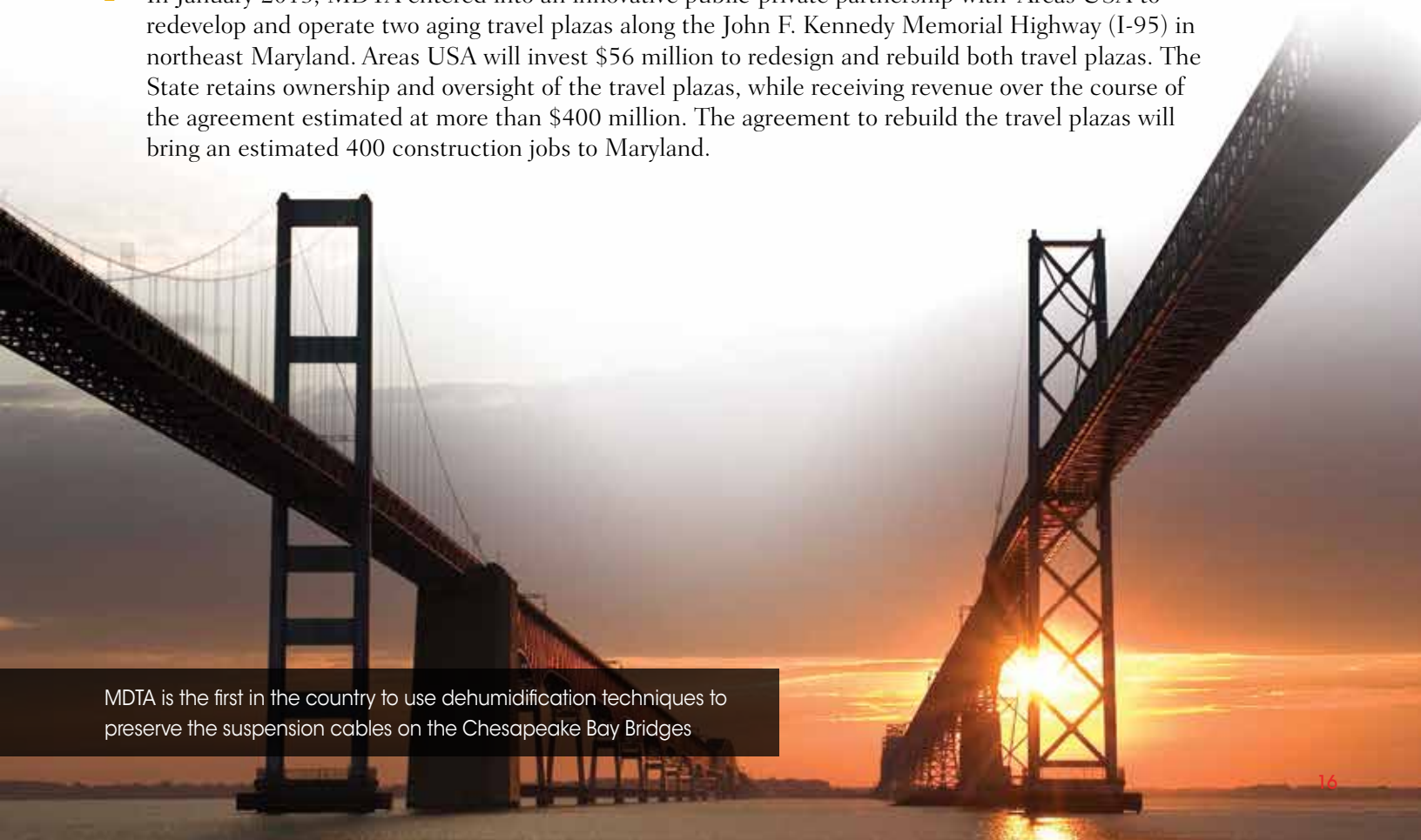
Preserve and maintain the State's existing transportation infrastructure and assets

Objective:

- Preserve and maintain State-owned or supported roadways, bridges, public transit, rail, bicycle and pedestrian facilities, ports, airports and other facilities in a state-of-good-repair.

Accomplishments and Ongoing Activities:

- In January 2013, MDTA entered into an innovative public-private partnership with 'Areas USA' to redevelop and operate two aging travel plazas along the John F. Kennedy Memorial Highway (I-95) in northeast Maryland. Areas USA will invest $56 million to redesign and rebuild both travel plazas. The State retains ownership and oversight of the travel plazas, while receiving revenue over the course of the agreement estimated at more than $400 million. The agreement to rebuild the travel plazas will bring an estimated 400 construction jobs to Maryland.



MDTA is the first in the country to use dehumidification techniques to preserve the suspension cables on the Chesapeake Bay Bridges

- MDTA is the first in the country to use dehumidification techniques to preserve the suspension cables on the Chesapeake Bay Bridges.
- As reflected in the FY 2014-2019 CTP, major investments in preserving infrastructure at BWI Marshall Airport are anticipated, with more than $350 million budgeted for improving runway safety areas, pavement conditions, and updating of runways and taxiways to meet new Federal Aviation Administration design standards.

Quality of Service

Maintain and enhance the quality of service experienced by users of Maryland's transportation system

Objectives:

- Increase the efficiency of transportation service delivery through the use of systems, processes, partnerships, technologies and improved service delivery methods.
- Maintain and enhance customer satisfaction with transportation services across modes.
- Seek to maintain or improve travel time reliability for key transportation corridors and services.
- Continue to apply enhanced technologies to improve the transportation system and to communicate with the traveling public.

Accomplishments and Ongoing Activities:

- As a result of the Transportation Investment Act, MDOT added $1.6 billion to improve MARC Commuter Rail and advance three key transit projects designed to create jobs, revitalize neighborhoods, reduce congestion and improve air and water quality. The funding will be used to purchase 10 new locomotives, begin MARC weekend service, and add construction funds for the Purple Line and Baltimore Red Line projects, and advance the Corridor Cities Transitway to construction.
- Many of MVA's most requested services are now available online and via kiosks, such as identification card and driver's license renewals, allowing customers to conduct business at their convenience without visiting an MVA office. By making more services available online, wait times are reduced for customers with more complex MVA transactions that do require an in-person visit.

The Maryland Motor Vehicle Administration's ezMVA bus is just one way Marylanders can easily access driver services

Environmental Stewardship

Ensure that the delivery of the State's transportation infrastructure program conserves and enhances Maryland's natural, historic and cultural resources

Objectives:

- Limit the impacts of transportation on Maryland's natural environment through impact avoidance, minimization and mitigation.
- Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets.
- Implement transportation initiatives to mitigate the impacts of climate change and improve air quality.
- Support broader efforts to improve the health of the Chesapeake Bay, protect wildlife, conserve energy, and address the impacts of climate change.

Retrofitting and replacing MTA buses with hybrid or clean diesel technologies helps improve Maryland's air quality

Accomplishments and Ongoing Activities:

- MTA received a $40 million federal grant to replace Baltimore's 65-year old Kirk Division Bus Facility with two sustainable 'green' buildings that will help reduce noise and vehicle emissions in the neighborhoods near Kirk Division. In addition, the now fully funded project will reduce operating costs, create local construction jobs in Northeast Baltimore, and help more than 350 local transit employees maintain a growing fleet of new, energy-efficient buses.
- Working with the U.S. Army Corps of Engineers, MPA pioneered beneficial uses of dredged material for restoring eroding islands, and developing upland and wetland habitats in the Chesapeake Bay.
- SHA and MDTA are implementing new stormwater practices in response to the Chesapeake Bay Total Maximum Daily Load (TMDL) requirements. This includes treating stormwater runoff by installing sand filters, infiltration berms and bioretention landscaping, restoring streams and planting trees. SHA's program is designed to treat approximately 6,700 acres of currently untreated paving and will remove nearly 172,000 tons of sediment, 4,700 pounds of nitrogen and 1,089 pounds of phosphorus from the Chesapeake Bay watershed annually.

The Maryland Port Administration is pioneering beneficial uses of dredged material to restore eroded islands and to create upland and wetland habitats in the Chesapeake Bay

- SHA planted nearly 120,000 trees on 480 acres of State property in Anne Arundel, Baltimore, Carroll, Charles, Frederick, Harford, Howard, Montgomery and Prince George's counties.
- MDOT is retrofitting and replacing aging fleet vehicles to reduce emissions and improve air quality. This includes replacing MTA buses with hybrid or clean diesel vehicles; purchasing diesel MARC Train locomotives that meet stringent new EPA requirements for all types of pollutants; replacing MPA dray trucks with newer equipment that will use ultra low sulfur-bio diesel fuel; and retrofitting SHA dump trucks used for maintenance activities with special filters designed to reduce diesel fuel emissions.
- MDOT has encouraged use of electric vehicles by the public by installing electric vehicle chargers at various State-owned locations, making refueling more convenient.
- Over the next five years, MVA will reduce paper forms and increase the use of alternative service delivery methods, as well as provide virtual and wireless availability for driver and vehicle services and products.

Community Vitality

Provide options for the movement of people and goods that support communities and quality of life

In urban portions of the State, Maryland is concentrating development around transit stations like White Flint in Montgomery County

Objectives:

- Better coordinate transportation investments and land use planning to support the environmental, social and economic sustainability of Maryland's existing communities and planned growth areas.
- Enhance transportation networks and choices to improve mobility and accessibility, and to better integrate with land use.
- Increase and enhance transportation connections to move people and goods within and between activity centers.

Accomplishments and Ongoing Activities:

- MTA has received approval from the Federal Transit Administration (FTA) to begin final engineering design work for Baltimore's Red Line transit project. A favorable decision by the FTA for the 14-mile line between Woodlawn and Hopkins Bayview Hospital will permit MTA to move forward with acquiring property needed for construction. Expected Red Line ridership by 2035 is more than 50,000 passengers per day. The project is estimated to create nearly 10,000 direct construction and related jobs during the six-year construction period.
- As part of the State's Cycle Maryland initiative, MDOT created an online platform to promote bicycling events, programs and information statewide. MDOT also provides grant funding for local bicycle infrastructure and bike sharing and updated the Maryland Bicycle and Pedestrian Master Plan, which identifies key initiatives and strategies to make Maryland more bicycle and pedestrian friendly based on input from local governments and stakeholders.
- Maryland is concentrating development around transit stations to create communities where people live, work, and shop – all in walking distance to transit. This translates into more transit ridership and less sprawl. Current projects underway include: Owings Mills; New Carrollton Metro; Reisterstown Plaza; White Flint; Branch Avenue; Twinbrook; Laurel; Savage; Reisterstown; Odenton; and Aberdeen.

Pedestrian-friendly communities

Economic Prosperity

Support a healthy and competitive Maryland economy

Objectives:

- Improve the movement of freight and support growth in the flow of goods within and through Maryland.
- Facilitate opportunities for growth in jobs and business across the State.

Accomplishments and Ongoing Activities:

- In June 2012, four new cranes, the largest of their kind in the maritime industry, were delivered to the Port of Baltimore as part of the new $100 million, 50-foot berth being built under the MPA's P3 agreement with Ports America Chesapeake. The cranes are 400 feet tall and with the boom fully raised, they can reach 22 containers across on a container ship, lift 187,300 pounds of cargo, and being fully electric, will emit no diesel emissions. The new Seagirt Marine Terminal became fully operational in January 2013, supporting 3,000 construction jobs and an estimated 2,700 jobs associated with its enhanced cargo-handling capacity.
- In 2013, MPA received a federal National Infrastructure Investments Discretionary Grant for the Port of Baltimore that includes providing rail access to Fairfield Marine Terminal; widening and straightening the navigation channel to the Seagirt Marine Terminal; and filling the Fairfield Basin to develop seven acres of new land for cargo storage. This channel improvement will enable access to the next generation of container ships that will transit the Panama Canal when it is expanded in 2015.

Four new 400-foot cranes stand ready to move containers from some of the world's largest ships

Related Plans and Initiatives

The following key statewide and regional planning documents were considered during the 2035 MTP development process and helped to inform the Plan's content:

State Agency Plans

- **PlanMaryland (2011):** A statewide sustainable growth plan which sets out a process for improving coordination between state agencies and local governments on smart growth; stimulating economic development and revitalization; accommodating a projected one million additional residents by 2035; improving communities without sacrificing agricultural and natural resources; and saving Maryland an estimated $1.5 billion a year in infrastructure costs during the next 20 years through an effective smart-growth approach to land use. The Maryland Department of Planning is coordinating with local jurisdictions to identify planning areas and state agencies were requested to review proposed General Fund capital projects in terms of their effects on, and implications for, PlanMaryland objectives.
- **Greenhouse Gas Emissions Reduction Act Plan (2013):** The Greenhouse Gas Emissions Reduction Act of 2009 mandated that the State propose a plan that achieves a 25 percent statewide reduction in greenhouse gas emissions by 2020, while also spurring job creation and helping to improve the economy. The plan spurs reductions in greenhouse gas emissions through incentives and other means that increase energy efficiency using existing technologies, helps reduce VMT and promotes increased transit ridership, and identifies ways to transition to new energy sources and stimulate further technology development.
- **Housing Maryland: A Housing Policy Framework for Today and Tomorrow (2013):** Housing Maryland establishes a statewide housing framework for future collaboration among Maryland's housing stakeholders. Housing Maryland sets forth overarching policy goals, objectives, and strategies to better address housing needs in Maryland through a policy framework that acknowledges a nexus among sustainable housing and health, transportation, education, and other critical community concerns.
- **Smart, Green and Growing Initiative:** A policy initiative for citizens, businesses, organizations and governments to come together to strengthen Maryland's economy, protect its environment, and improve the State's quality of life – all components of a more sustainable future.

Modal Agency Plans

- **Bicycle and Pedestrian Master Plan – MDOT (2014):** A process to update the Bicycle and Pedestrian Master Plan (last adopted in 2002) was undertaken to coincide with the 2035 MTP. The Bicycle and Pedestrian Master Plan establishes a 20-year vision to support cycling and walking as modes of transportation in Maryland. The Plan provides guidance and investment strategies to support cycling and walking, both on-road and off-road, as part of Maryland's multimodal transportation network.
- **Transit Modernization Program – MTA (2013):** A strategic effort to improve public transit throughout the State and deliver an integrated transit system that provides access to critical resources and aligns service with new housing and job centers. A key component of the Transit Modernization Program is the Bus Network Improvement Project, which will focus on how the network intersects with and supports Light Rail, Metro Subway and MARC.
- **MARC Growth and Investment Plan – MTA (2013 Update):** A multi-phased, multi-year plan to accommodate growth in Maryland's commuter rail system. MARC is a key component of Maryland's commuter network providing rail service for more than 30,000 commuters a day. The plan is intended to provide a blueprint for future rail service by meeting the objectives of increasing ridership, improving service, maintaining existing and new trains and facilities, and enhancing customer experience.

- **Maryland State Highway Mobility Report – SHA (2012):** This report highlights the transportation performance of the state highway system using travel time based data and details SHA's mobility-related efforts over the last year, with a focus on policies, programs and projects that systematically reduce recurring and non-recurring congestion.
- **2011-2015 Strategic Highway Safety Plan – Multiple Agencies (2011):** The 2011-2015 SHSP brings together planning, engineering, operations, public outreach, legislators, law enforcement and EMS partners to focus on developing countermeasures for six priority emphasis areas including highway infrastructure improvements, distracted driving, impaired driving, aggressive driving/speeding, occupant protection and pedestrians. For each problem, the SHSP focuses attention on the geographic areas where it is most prevalent.
- **Maryland Statewide Freight Plan – MDOT (2009):** The Freight Plan lays out critical issues facing freight and offers strategies to help Maryland prepare for the estimated 75 percent increase in freight by 2030 for the State and the region. The plan outlines more than 100 port, highway and rail public and private projects totaling about $35 billion that have been ranked based on specific criteria ranging from safety and security to freight connectivity.
- **Freight Implementation Plan – SHA and MDTA (2013):** This plan provides an overview of existing and future freight system conditions and offers a series of strategies for planning and project development activities to enhance the safe and efficient movement of freight on the highways.
- **Destination 2035: Modernizing Maryland's Mobility – MVA (2013):** This long range plan identifies the strategic direction to guide MVA's programs and policies. It outlines an approach that will adapt to societal transformations and changes in customer needs, while considering emerging trends to allow the MVA to take advantage of industry dynamics and proven best practices.
- **2008 Strategic Plan and Vision 2025 Plan – MPA (2008):** These reports set MPA's strategic direction for maintenance and development of the Port of Baltimore's channels, inland rail and highway access to its marine terminals, maintenance and expansion of public terminal facilities, safety and security throughout the Port, and responsible environmental stewardship.

MPO Long Range Transportation Plans

Each of Maryland's seven metropolitan planning organizations (MPOs) is responsible for developing a regional long range transportation plan. These plans were assessed in developing the 2035 MTP:

- **Plan It 2035 (2011)** – Baltimore Metropolitan Council
- **Financially Constrained Long-Range Transportation Plan for the National Capital Region, Adopted July 17, 2013** – Metropolitan Washington Council of Governments
- **WILMAPCO 2040 Regional Transportation Plan Update: 2011 Update** – Wilmington Area Planning Council
- **Salisbury/Wicomico Metropolitan Planning Organization 2011 Long-Range Transportation Plan** – Salisbury/Wicomico Metropolitan Planning Organization
- **Direction 2035 (2010)** – Hagerstown/Eastern Panhandle Metropolitan Planning Organization
- **Cumberland Area Long Range Transportation Plan (2011)** – Cumberland Area Metropolitan Planning Organization
- **Calvert-St. Mary's Metropolitan Planning Organization** – This new MPO was established in December 2013 and will need to develop its first long range transportation plan.

REGION-BASED FRAMEWORK

The MTP's region-based framework complements and supports the Plan's vision, mission and goals, while providing MDOT with more contextual information to support decisions about transportation investments in the future. The region-based framework will also ensure efforts to implement the MTP reinforce broader statewide policy and planning initiatives while supporting Maryland's diverse local jurisdictions' needs and opportunities. To strengthen the transportation network while also addressing growth patterns, economic development and environmental concerns, it is recognized as particularly important that we strengthen the capacity to include land use considerations in transportation planning.

Maryland's Five Regions

From its rural Appalachian mountains to urban Baltimore and across to the Eastern Shore's Chesapeake Bay, Maryland is a diverse state made up of five distinct regions, each featuring different transportation system elements and needs.

Baltimore Region

Almost half of all Marylanders live in the Baltimore metropolitan region, which has a population of 2.7 million and is also home to a significant share of the State's employment. The region is centered around the City of Baltimore, which is the State's largest city. Baltimore's share of the national I-95 corridor serves a large concentration of freight-intensive industries and freight flows for both trucks and rail. Land use in the region is highly varied with well-established dense urban centers, medium to low-density suburban areas and a rural periphery. Several counties in the region have significant amounts of rural land that face development pressure. A bustling, interconnected web of transportation modes serves the region's e conomy and its citizens, including an extensive network of Interstates, regional rail service (Amtrak), commuter rail service (MARC), local and commuter bus service, and Baltimore Metro Subway and Light Rail. The Baltimore metropolitan region is home to the Port of Baltimore, a key freight node for the State and mid-Atlantic, and Maryland's primary airport, BWI Marshall, as well as Martin State Airport. Transportation infrastructure in the Baltimore metropolitan region also includes privately owned and operated CSX and Norfolk Southern (NS) Class I rail freight lines. The Baltimore region is ranked the 21st most congested metropolitan area in the country.

Washington Region

Just over one third of Maryland's population (2.1 million people) lives in the Washington metropolitan region. With about 250,000 new residents since 2000, much of Maryland's population growth has occurred in this region and it serves as a primary location for many of the State's largest employment centers. Land use includes several transit-oriented urban centers like Bethesda and Silver Spring as well as established suburban communities and rural areas. A wide variety of multimodal transportation options are available in the region including an extensive network of Interstates; regional (Amtrak) and commuter rail service (MARC); local and commuter bus service; WMATA Metrorail and Metrobus transit; easy access to BWI Marshall Airport; and privately owned and operated CSX and NS Class I rail freight lines. The I-95 corridor in this region serves a concentration of freight-intensive industries and freight flows, but the I-270 corridor also is rapidly becoming a major truck freight corridor. The region is ranked the 9th most congested metropolitan area in the country.

Eastern Shore

The Eastern Shore of Maryland is predominately rural, dotted with small 'main street' communities. About 8 percent of Maryland's population lives on the Eastern Shore. Although the region is growing and supports a thriving agricultural and tourism-based economy, only one of the State's major employment centers, Salisbury, is located on the Eastern Shore. The Eastern Shore's transportation system is primarily highway-oriented. Key routes include I-95 in Cecil County, US 50, which provides a vital link, via the Chesapeake Bay Bridge, between the Eastern Shore and the rest of the State, and US 301 and US 13, both of which carry significant freight traffic.

Southern Maryland

Southern Maryland features widely spaced towns separated by agricultural land or green space. Six percent of the State's population lives in Southern Maryland, which comprises the counties to the south and east of Washington, DC on the western shore of the Chesapeake Bay. Rapid, low-density suburbanization is the predominant land use trend in this portion of the State. This growth is attributable both to expansion of employment opportunities within the region (e.g. employment growth associated with Patuxent River Naval Air Station) and an influx of commuters to Washington, DC (especially in northern Charles County). Transportation remains primarily automobile-oriented and major transportation infrastructure includes US 301, MD 4 and MD 5 highways. The MTA operates a number of well-used commuter bus routes from points within each of the region's counties to downtown Washington. In addition, each county in the region operates a limited system of fixed route bus lines, and other transportation infrastructure includes a privately owned and operated CSX Class I rail freight line.

Western Maryland

Western Maryland's largest communities include Hagerstown, Cumberland and Frostburg, but much of the region is rural. Hagerstown is the region's fastest growing community and contains Western Maryland's only major statewide employment center. Western Maryland is the State's least populous region with about four percent of the State's residents in 2012. The region's transportation system is primarily roadway-oriented; major highways include I-68, I-70, and I-81. Locally operated bus services are provided in Cumberland, Frostburg and Hagerstown. Amtrak makes a station stop in Cumberland on its route between Washington, DC and Chicago, and the region has CSX and NS owned and operated Class I rail freight lines. The easternmost portion of the region faces development pressures radiating from Frederick, and metropolitan Washington, DC and Baltimore, as residents search for lower cost housing relative to communities in the adjacent metropolitan regions.

The MTP and PlanMaryland

As part of efforts to ensure consistency with the statewide sustainable growth plan (PlanMaryland) and with the State's Economic Growth, Resource Protection and Planning Act, MDOT is working to develop enhanced modeling and decision-support tools to better inform project evaluation and selection in the context of both land use considerations, and statewide planning and policy initiatives.

Maryland's Transportation Place Types

Within each of Maryland's five regions, transportation needs and appropriate strategies vary depending on the land use, economic and demographic characteristics of particular areas. To achieve the goals and objectives of this plan, and to support broader statewide policy and planning goals, transportation "Place Types" are introduced, along with "Planning Areas" identified in PlanMaryland, to provide a land use context for transportation decision-making. The PlanMaryland Planning Areas focus on policy objectives for different areas, while the place types focus primarily on existing land uses that shape transportation needs.

These place types, taken together with PlanMaryland's Planning Areas, will provide a framework for assessing transportation needs and appropriate investments and strategies. Key transportation-related criteria (including land use, economic and demographic characteristics) will be used as a basis for analyzing how needs and opportunities should inform transportation strategies. Certain strategies will apply across the State, while others may be more closely linked to particular place types.

The Transportation/Land Use Context map on page 28 depicts generalized land use characteristics that help convey the different place types across the State. These place types may be refined in the future to guide more specific transportation strategies. The map also illustrates the land use context within which the transportation system exists, as well as the guiding framework the State's sustainable growth policies provide for transportation decision-making. The tables below relate the Context map features to the corresponding Planning Areas identified in PlanMaryland.

Urban Centers

Investment Direction – Growth, renewal and reinvestment in transportation infrastructure for all modes

Population and commerce centers that have most of the following characteristics:

- Concentrations of population, employment and infrastructure that serve as principal locations for Maryland's regional or national-scale employment, commercial, social and civic activity.
- Heavily built up environments with a relatively compact and well-balanced mix of residential, commercial and industrial land uses; and high population densities, which may vary by region, but are typically over 8 dwelling units per acre.
- Potential to support a robust multimodal freight and personal transportation system that includes good access to local, regional and national highways; truck/rail/port freight system elements; and air transportation, public transit, and non-motorized system elements.
- Heavy truck freight and personal vehicle volumes on major highways, peak-hour travel conditions on key roadways and transit lines that are frequently congested.

Context Map Feature	PlanMaryland Planning Areas
GrowthPrint areas (including designated Sustainable Communities) are subsets of Priority Funding Areas and are targeted by local and State government for infill, revitalization and redevelopment. ***Priority Funding Areas (PFAs)*** are locally designated places where local governments have planned for revitalization and growth, and which are eligible to receive State funding to support community development.	Targeted Growth and Revitalization Areas
	Established Communities in Priority Funding Areas
	Future Growth Areas

Examples – City of Baltimore, Bethesda, Frederick, Silver Spring, Salisbury

Towns and Suburban Centers

Investment Direction – Invest in multimodal transportation solutions to promote responsible growth

Context Map Feature	PlanMaryland Planning Areas
GrowthPrint (including designated Sustainable Communities) and PFAs	Targeted Growth and Revitalization Areas
	Established Communities in Priority Funding Areas
	Future Growth Areas

Developed areas in a downtown or corridor setting that may be linked with an urban center or that feature medium density commercial activity and populations with some access to multimodal transportation options and have most of the following characteristics:

- 'Satellite' relationship to urban centers.
- Mostly built up environment with predominantly medium density residential land use and scattered mixed use centers or separated commercial corridors.
- Often places where land development, population and employment growth pressure is greatest.
- Medium population density, which varies by region, typically ranging from 3.5 to 8 dwelling units per acre.
- Good access to local, regional and national highway network, some access to transit and non-motorized transportation system elements.
- Heavy truck freight and personal vehicle volumes on major highways; peak-hour travel conditions on key transportation system elements are frequently congested.

Examples – Owings Mills, Chestertown, Bowie, Waldorf

Rural and Agricultural Areas

Investment Direction - Maintain existing infrastructure and improve conditions for agricultural activity

Context Map Feature	PlanMaryland Planning Areas
AgPrint, which identifies permanently preserved agricultural lands, as wells as certain agricultural areas, including prime farmland, for continued use as valuable resource lands.	Rural Resource Areas Large Lot Development Areas

Areas outside Maryland's urban and suburban centers that feature widely spaced rural centers separated by agricultural land or green space and that are dependent on highways and that have most of the following characteristics:

- Modestly populated regions that combine undeveloped, tourism, recreational or agricultural land uses interspersed with local centers for employment, tourism, commercial, social or civic activity.
- Low population density, which varies by region, and is not in a Priority Funding Area.
- Convenient access to local and regional highways, but usually no local, fixed route transit; few non-motorized system elements, except recreational trails.
- Some regionally significant highway corridors; but peak-hour travel conditions on key rural transportation system elements are rarely congested; most freight is through traffic.
- Rural areas adjacent to suburban centers may be experiencing development pressure.

Natural Areas

Investment Direction - Maintain existing infrastructure and support appropriate access to these areas

Areas of the State that are predominantly protected from development, such as state wildlife areas, that have most of the following characteristics:

- No major centers for employment, commercial, social and civic activity and not in a Priority Funding Area.
- Occurrence of natural lands such as forested areas, federal or state parks/forests or wildlife preserves.
- Limited access to local and regional highways, no local transit and non-motorized system elements.

Context Map Feature	PlanMaryland Planning Areas
GreenPrint identifies areas that have a heightened relative value for preservation and restoration based on environmental and ecological factors.	Rural Resource Areas

Transportation/Land Use Context Map Notes:

Priority Funding Areas (PFAs) *are geographic areas defined by State law and designated by local jurisdictions as appropriate areas for targeting State investment in growth-related infrastructure. The 1997 Priority Funding Areas Act defined these areas as a mechanism to help guide growth towards established communities and areas supported by existing or planned public services and infrastructure. The criteria for designating or amending PFAs are defined in the Annotated Code of Maryland (State Finance and Procurement Article §5-7B-02 and §5-7B-03), and include such considerations as permitted (zoned) density and availability of water resources. State investment in transportation capacity improvements are strongly guided by these designated areas.*

Employment Centers*, identified in the dark blue areas on map as developed by the University of Maryland National Center for Smart Growth, are areas that are contiguous geographic units containing at least 8 jobs per acre and at least 10,000 total jobs. Note that the employment centers included on the map comprise only about one percent of the State's land area, but contain more than 25 percent of all employers and nearly 40 percent of all jobs in the State.*

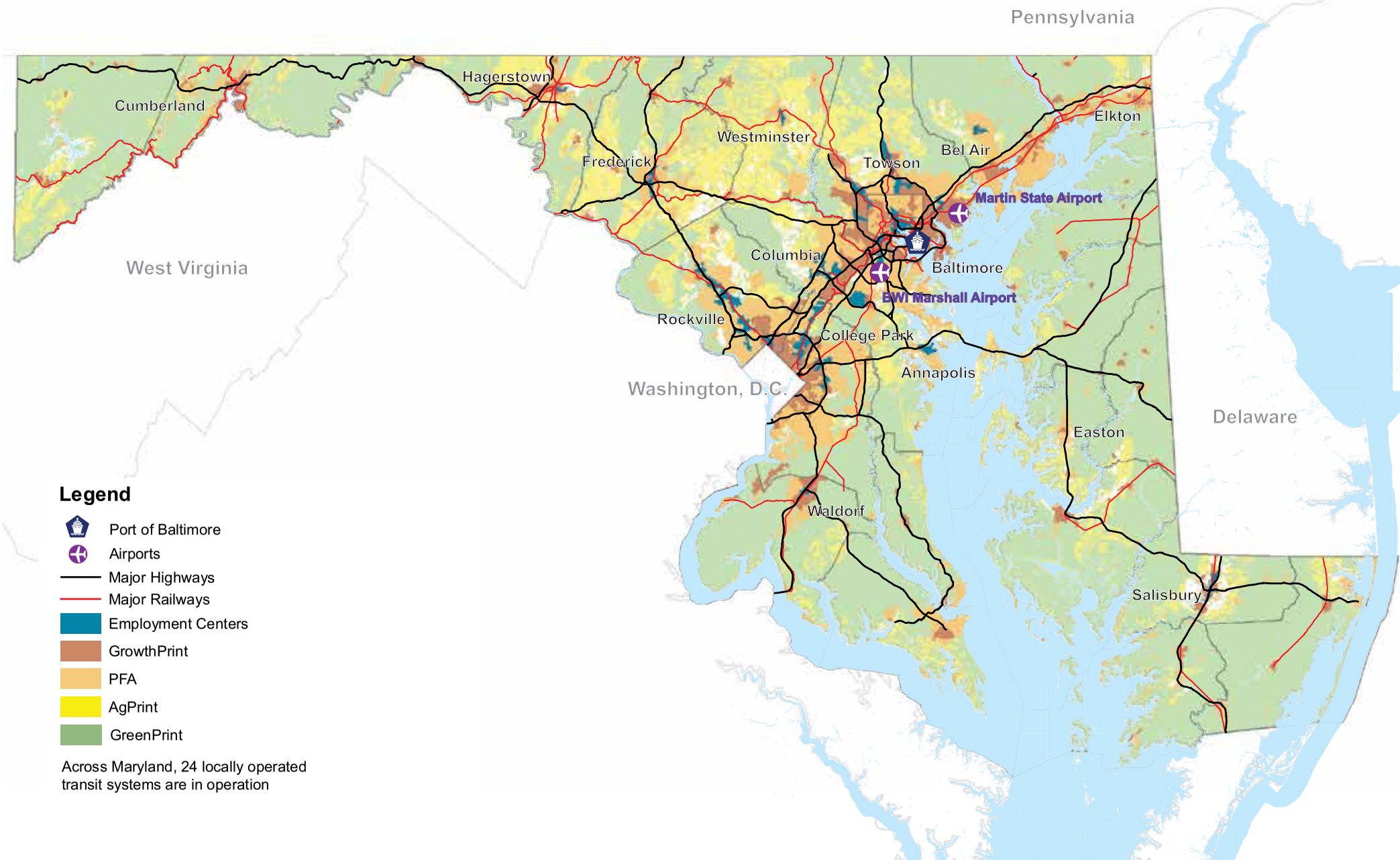
GrowthPrint *areas are subsets of Priority Funding Areas and are targeted by local and State government for growth, infill, revitalization and redevelopment through a variety of existing programs. It is anticipated that GrowthPrint and PlanMaryland "Targeted Growth and Revitalization Areas" (under development) will be identical. Included in this category are Sustainable Communities, which are specifically designated areas (under development and not mapped) that are targeted for State and local revitalization activity. They were defined by the 2010 Sustainable Communities Act, which established a common platform for State and local entities to coordinate programmatic support for infill and redevelopment. The State's officially designated Transit-Oriented Development (TOD) areas are automatically included in this designation, and local jurisdictions are proposing specific geographic boundaries and strategic plans to achieve these ends. Future Growth Areas (unmapped) are undeveloped lands within designated PFAs that represent logical places for community growth, as described in PlanMaryland.*

AgPrint *areas are farm and rural resource lands planned and zoned for preservation and conservation by local governments, eligible for preservation through the Maryland Agricultural Land Preservation Foundation. AgPrint and PlanMaryland "Rural Resource Areas" are identical.*

GreenPrint *areas are State high priority areas for watersheds or natural resources – e.g. tidal and non-tidal fisheries, important forests and green infrastructure, wildlife and rare species habitat, aquatic communities, and specially targeted ecological areas.*

**Please note that the various "Print" geographies are subject to change based on ongoing State and local government coordination regarding related plans and programs.*

Maryland's Transportation/Land Use Context



Across Maryland, 24 locally operated transit systems are in operation

IMPLEMENTING THE PLAN

This chapter of the MTP details investment strategies that have been identified to help achieve the MTP goals and objectives, and suggests appropriate strategies for specific regions and place types. First, a set of statewide strategies are presented that have relevance to all regions of the State and the majority of place types. Following this overarching statewide strategy list are key strategies for each of the five regions, indicating the place types for which each strategy has particular relevance. These strategies are intended to help guide future transportation investments.

Statewide Transportation Strategies

Goal: Safety & Security

- Fix roadway elements through targeted safety improvements in locations where crash severity index data indicate serious problems, with emphasis on 1) reducing crashes on rural, two-lane, undivided roads; 2) reducing truck-related crashes; and 3) addressing multi-lane highways.
- Improve education, awareness and enforcement for key 'emphasis areas' in Maryland's Strategic Highway Safety Plan including: distracted driving; impaired driving; aggressive driving; occupant protection; targeted infrastructure improvements, and bicycle and pedestrian safety initiatives.
- Ensure that all public transit stops are located and designed to maximize safety and accessibility.
- Implement, update and track strategies (e.g., from the Maryland Strategic Highway Safety Plan (SHSP)) to reduce the number of fatalities and injuries on the transportation system. The SHSP seeks a 50 percent reduction in crash-related fatalities and injuries by 2030.
- Enhance safety-related programs, such as driver safety training, Ignition Interlock, the Medical Advisory Board (to assess drivers with potential health-related issues), Administrative Adjudication and school bus inspections.
- Promote deployment of Positive Train Control (PTC) on shared passenger/freight rail corridors.
- Enhance data security procedures to protect private data.
- Improve rail safety by 1) improving rail hazardous material cargo routing to minimize hazardous material exposure for communities and 2) closing or separating grade crossings conflicts between highways, pedestrians and rail.
- Ensure safety at merge areas, including such measures as extending acceleration ramps at interchanges and truck weigh and inspection stations and adding dedicated truck climbing lanes.
- Continue to plan for and provide additional truck parking capacity across the State.
- Ensure enhanced and integrated security measures, including the continued implementation of 'Real ID'.
- Improve education and training of professionals involved in bicycle and pedestrian safety.
- Improve the State's emergency management capabilities for natural and man-made disasters by completing emergency management plans and training.
- Assess the risks to transportation infrastructure, mobility, and emergency management of sea level rise and other climate change impacts and identify adaptation options.
- Improve communication and coordination among federal, state, and local stakeholders and the public.

Goal: System Preservation

- Use asset management practices to address bridges with borderline ratings to prevent them from becoming structurally deficient.
- Keep the State's roadways in acceptable ride conditions and meet performance standards.
- Be a national leader in transportation innovations for system preservation, maintenance and inspections of all transportation assets.
- Keep State-owned and operated facilities and equipment in a state of good repair.
- Prioritize system preservation needs on National Highway System structures with reported structural deficiencies to prevent weight restriction situations.

Goal: Quality of Service

- Invest in and support user technologies, applications, and advancing and sharing of real-time data.
- Address congestion and bottlenecks on regionally significant corridors.
- Upgrade traffic signal systems statewide with real-time communication to maximize operations efficiency.
- Evaluate managed lanes, such as high-occupancy vehicle (HOV) lanes, congestion pricing, and related strategies for future transportation investment, as appropriate.
- Assess converting all toll plazas to all-electronic tolls and investigate time of day pricing on tolled facilities to better manage demand.
- Increase rail system capacity for freight and passenger use.
- Evaluate alternative project delivery methods to expedite project delivery.
- Enhance coordination among state and local jurisdictions on design and construction.
- Promote teleworking, ridesharing, flexible work hours and other transportation demand management (TDM) measures.
- Promote online services and technologies for sharing and gathering information, including customer response surveys.
- Maintain Maryland's leadership in Commercial Driver's Licensing practices.
- Expand MVA's statewide "Project Core" system to improve convenient customer access to driver and vehicle information, services and products.
- Improve the effectiveness and efficiency of local MTA transit networks for residents, employees and visitors.
- Expand commuter transportation options, including commuter transit, car/vanpooling, and park-and-ride facilities.

Goal: Environmental Stewardship

Electric vehicle chargers at transit stations

- Make optimal use of energy resources in accordance with State goals for petroleum use reduction, GHG emissions reduction, energy conservation and cost reduction, and support for renewable energy.
- Monitor developments in alternative vehicle fuel technologies and evaluate for their application to transportation fleets.
- Expand the use of alternative fuels in the State transportation fleet and service vehicles so that all fleets deploy the most fuel-efficient, clean, and cost-effective vehicles appropriate to their intended use.
- Implement policies to ensure that new and renovated facilities are designed and constructed using optimal environmental standards.
- Continue to explore the feasibility of integrating renewable energy generation technologies into the transportation system.
- Institutionalize the consideration of future sea levels and storm conditions in prioritizing infrastructure investments in coastal areas.
- Enhance preparedness and planning efforts to protect human health, safety and welfare in light of changing climate conditions.
- Continue the development and implementation of modal and department-wide Environmental Management Systems (EMS). EMS is a proactive, coordinated systems approach to environmental management; it targets resource protection and risk management through conservation, stewardship and compliance efforts as they pertain to the lifecycle of transportation assets and their environmental context.
- Continue to monitor and test vehicles for emissions compliance through the State's Vehicle Emissions Inspection Program.
- Diligently pursue the water quality improvement goals of the Chesapeake Bay Watershed Implementation Plan through a broad set of pollution control strategies.
- Continue to evolve practices to avoid and minimize impacts of the transportation system to natural and cultural resources and include enhancement and preservation wherever feasible, including for example tree planting and re-forestation measures.
- Maximize opportunities to incorporate environmental benefits into all transportation projects to ensure compliance with state and federal requirements.

Goal: Community Vitality

- Promote sponsorship of local community outreach initiatives, such as adopt-a-highway.
- Implement SHA's Complete Streets Policy, requiring that all SHA staff and partners consider and incorporate complete streets criteria for all modes and types of transportation when developing or redeveloping the transportation system.
- Implement SHA's new bicycle design guidelines that require all projects, including resurfacing projects, to include bicycle lanes, or to demonstrate that bicycle accommodations are provided to the greatest extent possible and a bicycle waiver is required.
- Develop policies for Transit-Oriented Development Areas, Bicycle and Pedestrian Priority Areas, and Sustainable Community Areas, and apply policies to guide the agency in providing a sustainable transportation network for the future.
- Continue to enhance data collection and analysis tools relating to walking and bicycling, including collecting detailed inventories of existing walking and biking facilities and exploring new ways to obtain bicycle and pedestrian count data.
- Promote access management in key planned growth areas in partnership with local governments.
- Identify and eliminate short gaps in existing sidewalk and trail systems through local and state partnerships.

Goal: Economic Prosperity

- Make targeted transportation infrastructure investments to support critical state and regional economic development needs, including the revitalization of designated Sustainable Community Areas.
- Expand and enhance truck inspection practices (e.g., weigh-in-motion) that keep truck freight moving.
- Improve freight intermodal connections and increase options for increased freight rail capacity.
- Maintain State freight rail facilities to ensure goods movement around the State.
- Develop and educate on truck freight route mapping to help make truck movements more efficient.
- Consider use of public-private partnership approaches as a routine option for addressing transportation investment needs.

Entrance to the Port of Baltimore

Key Regional Transportation Strategies – Baltimore Metropolitan Region

Urban Centers

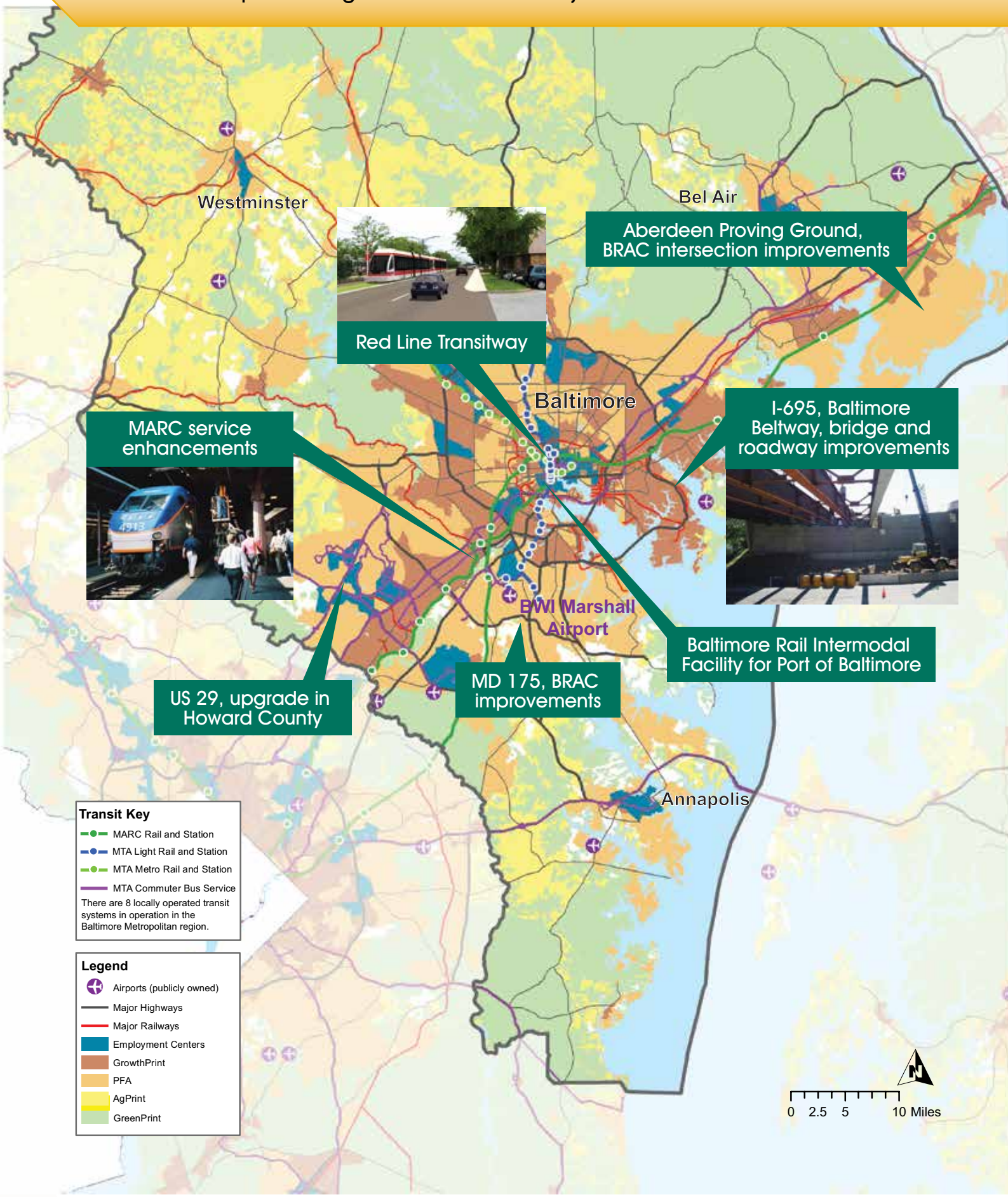
Rural and Agricultural Areas

Towns and Suburban Centers

Natural Areas

Baltimore Region Representative Strategies	Place Types
Ensure that the Port of Baltimore is in compliance with US Coast Guard security inspections and the Maritime Transportation Security Act (MTSA) of 2002.	Urban Centers
Target safety improvements in locations where crash severity index data indicate serious problems.	Urban Centers, Towns and Suburban Centers, Rural and Agricultural Areas, Natural Areas
Continue to maintain the navigation channel depth and width to allow safe, two-way traffic to and from the Port of Baltimore.	Urban Centers
Promote State dredging and dredged material placement priorities for inclusion in the next Water Resources Development Act (WRDA).	Urban Centers, Natural Areas
Systematically improve transit service connectivity, frequency, extent, quality and speed to make transit a more attractive modal option, linking housing and employment across the region's urban centers, with the construction of the Red Line (light rail service), MARC improvements, and enhanced transit access to BWI Marshall Airport.	Urban Centers, Towns and Suburban Centers
Address congestion and bottlenecks on regionally significant corridors, such as I-695, I-95, I-70, I-83, I-97, and MD 295, to facilitate access to major employment, freight, and activity centers while minimizing facilitation of development outside Priority Funding Areas.	Urban Centers, Towns and Suburban Centers
Expand CHART and other Intelligent Transportation Systems and operations tools to better manage peak hour congestion on Interstate and regionally significant corridors.	Urban Centers, Towns and Suburban Centers
Assess converting all toll plazas to all-electronic tolls and investigate time of day pricing to better manage travel demand.	Urban Centers, Towns and Suburban Centers
Evaluate managed lanes, such as HOV lanes, congestion pricing, and related strategies for future transportation investment and integrate transit as part of the strategies, as appropriate.	Urban Centers, Towns and Suburban Centers
Promote bike and car sharing programs.	Urban Centers, Towns and Suburban Centers
Invest in multimodal transportation capacity to support development of State-designated TOD sites in the Baltimore region, (including Westport, the State Center complex, Westport, Aberdeen, Odenton, Owings Mills, Reisterstown, and Savage).	Urban Centers, Towns and Suburban Centers
Increase public knowledge, understanding and support of Maryland's Dredged Material Management Program through strategic outreach to the communities, businesses and schools in the vicinity of project sites.	Urban Centers, Towns and Suburban Centers

Baltimore Metropolitan Region with Illustrative Projects



Key Regional Transportation Strategies – Baltimore Metropolitan Region (Continued)

Baltimore Region Representative Strategies

Place Types

- Work with local jurisdictions to develop a balanced approach to Complete Streets implementation, to include prioritized pedestrian and bicycle accommodation where appropriate.
- Work in partnership with local jurisdictions and State agencies to revitalize urban centers and towns and suburban centers.
- Support implementation of MTA's Transit Modernization Program (TMP) and the Bus Network Improvement Project.
- Expand inland transportation capabilities at the Port of Baltimore.
- Acquire property adjacent to existing Port facilities to preserve opportunities for expanding terminal space.
- Improve landside and freight rail access to the Port of Baltimore, including implementation of an Intermodal Container Transfer Facility in the vicinity of the Port.
- Provide enhanced air access to national and international markets at BWI Marshall Airport.
- Expand commuter transportation options, including commuter transit, car/vanpooling, and park-and-ride facilities.
- Develop additional truck parking capacity.

Hunt Valley Light Rail Station in Baltimore County

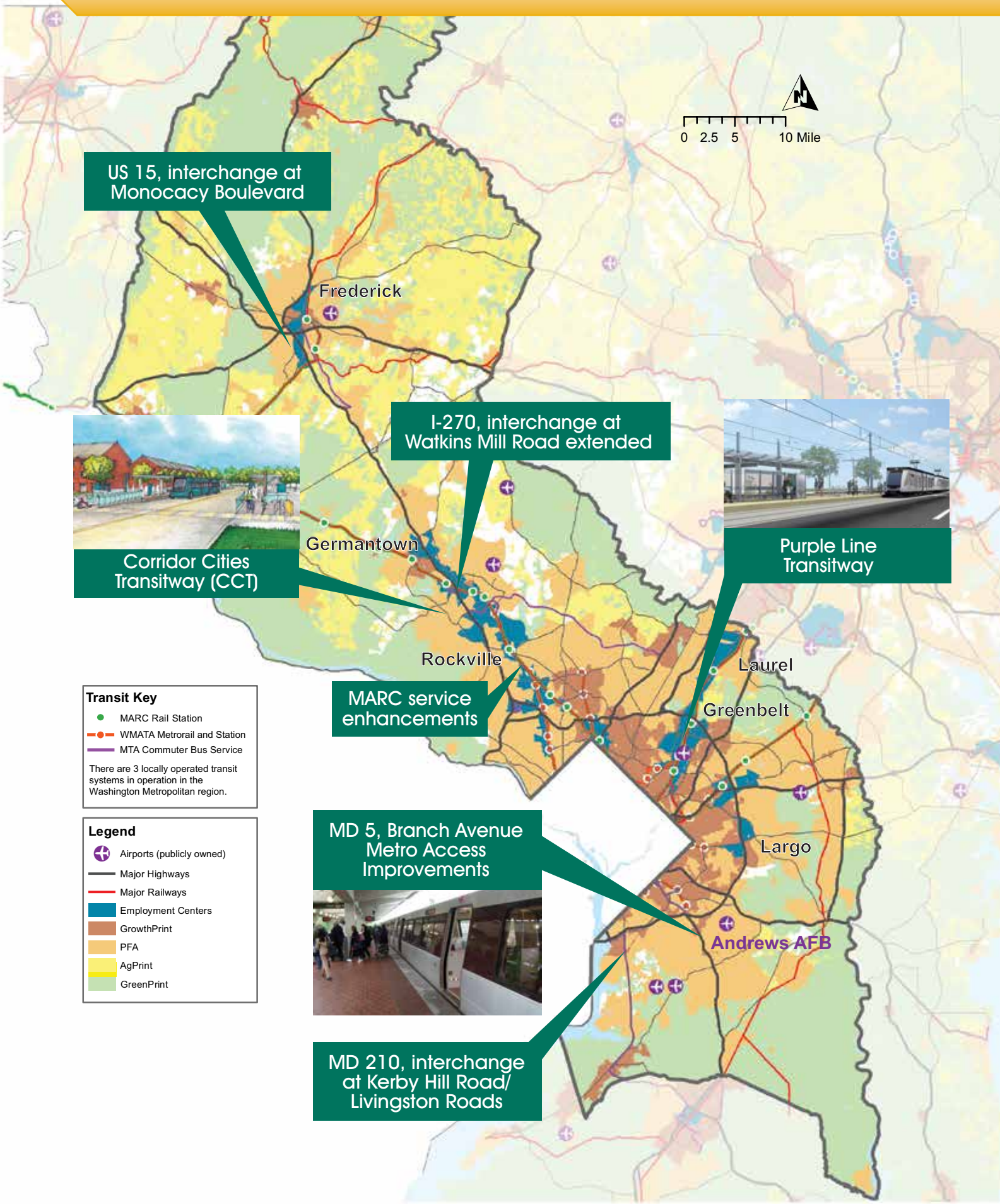
Port of Baltimore Cruise Terminal

BWI Thurgood Marshall Airport

Key Regional Transportation Strategies – Washington Metropolitan Region

Washington Region Representative Strategies	Place Types
Make targeted safety improvements in locations where crash severity index data indicate serious problems.	
Address congestion and bottlenecks on regionally significant corridors, such as I-270, I-95/I-495 (Capital Beltway), I-70 and US 50 to facilitate access to major employment, freight and activity centers, while minimizing facilitation of development outside Priority Funding Areas.	
Expand CHART or other Intelligent Transportation Systems and operations tools to better manage peak hour congestion on Interstate and regionally significant corridors.	
Evaluate managed lanes, including HOV lanes, congestion pricing, and related strategies for future transportation investment and integrate transit as part of the strategies, as appropriate.	
Systematically improve transit service connectivity, frequency, extent, quality and speed to make transit a more attractive modal option: • Link the region's inner Beltway employment and housing across its urban centers with the construction of the Purple Line (light rail service) and interconnect it with WMATA and local transit services; • Link the I-270 corridor's towns and suburban centers with the construction of the Corridor Cities Transitway (bus rapid transit service); and • Continue to support WMATA operations and enhancements through the a regional funding compact.	
Invest in transportation capacity projects to improve multimodal circulation at existing TOD sites, as well as to support development of State-designated TOD sites (including Shady Grove, Twinbrook, Wheaton, White Flint, New Carrollton, Naylor Road, and Branch Avenue).	
Support MARC improvements and continue to improve access to stations.	
Promote bike and car sharing programs.	
Work with local jurisdictions to develop a balanced approach to Complete Streets implementation, to include prioritized pedestrian and bicycle accommodation where appropriate.	
Work in partnership with local jurisdictions and state agencies to revitalize urban centers and towns and suburban centers.	
Enhance bicycle and pedestrian connections to transit, and employment and activity centers.	
Expand commuter transportation options, including commuter transit, car/vanpooling, and park-and-ride facilities.	
Develop additional truck parking capacity.	

Washington Metropolitan Region with Illustrative Projects

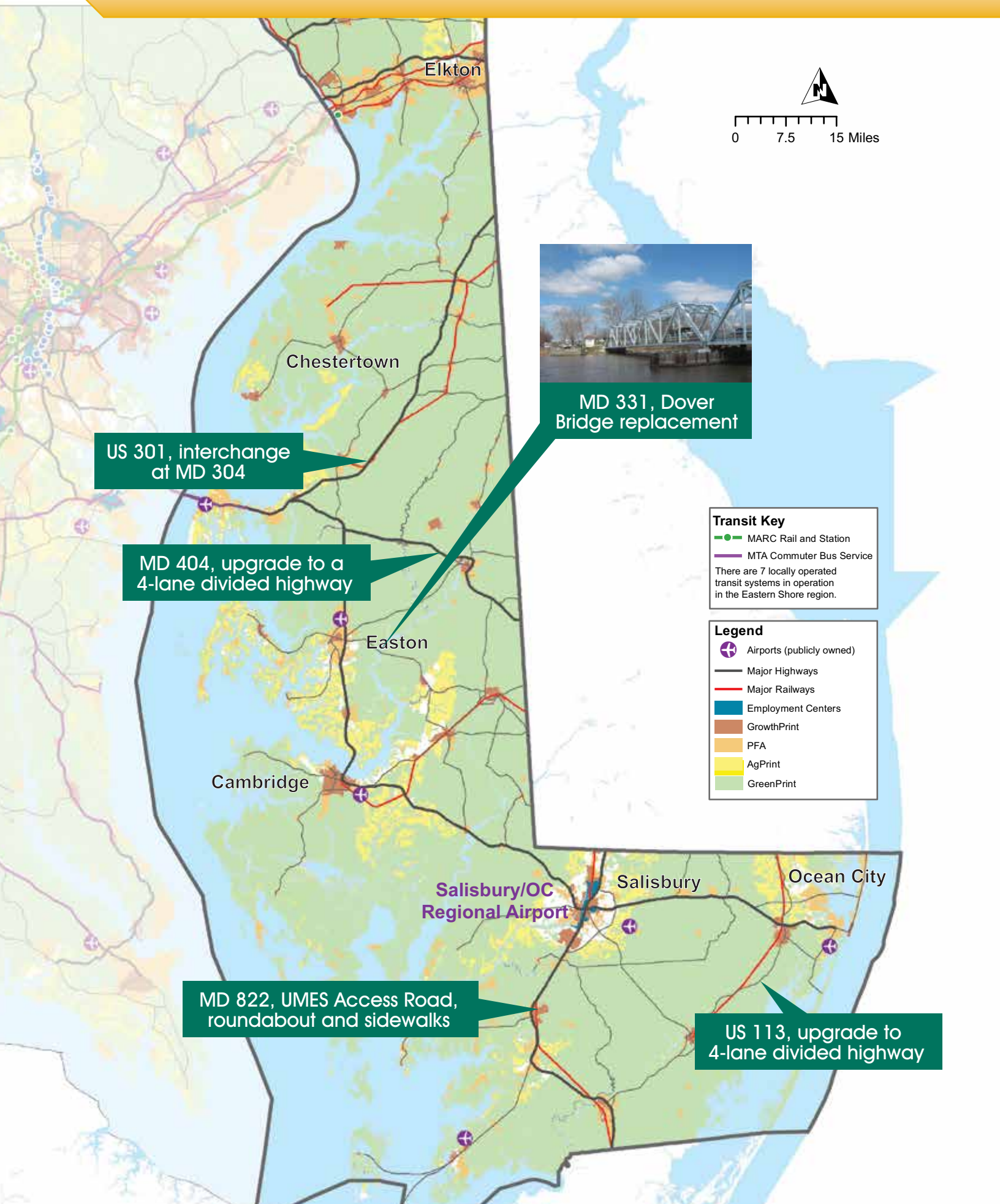


Key Regional Transportation Strategies – Eastern Shore Region

Eastern Shore Region Representative Strategies	Place Type
Targeted safety improvements, with emphasis on reducing crashes on rural, two-lane, undivided roads and reducing pedestrian injuries and truck-related crashes.	
Targeted operational strategies to manage peak hour congestion on regionally significant corridors.	
Strategize transportation expansion investments in areas susceptible to sprawl development and climate change impacts.	
Expand commuter transportation options, including commuter transit, car/vanpooling, and park-and-ride facilities.	
Complement Complete Streets approach to transportation planning in towns and rural centers with support for bicycle and pedestrian initatives.	
Work in partnership with local jurisdictions and state agencies to revitalize urban centers, towns and suburbs, and to support economic development initiatives.	
Maintain state freight rail and truck facilities to ensure goods movement.	

Choptank River Lighthouse in Dorchester County

Eastern Shore Region with Illustrative Projects



Key Regional Transportation Strategies – Southern Maryland Region

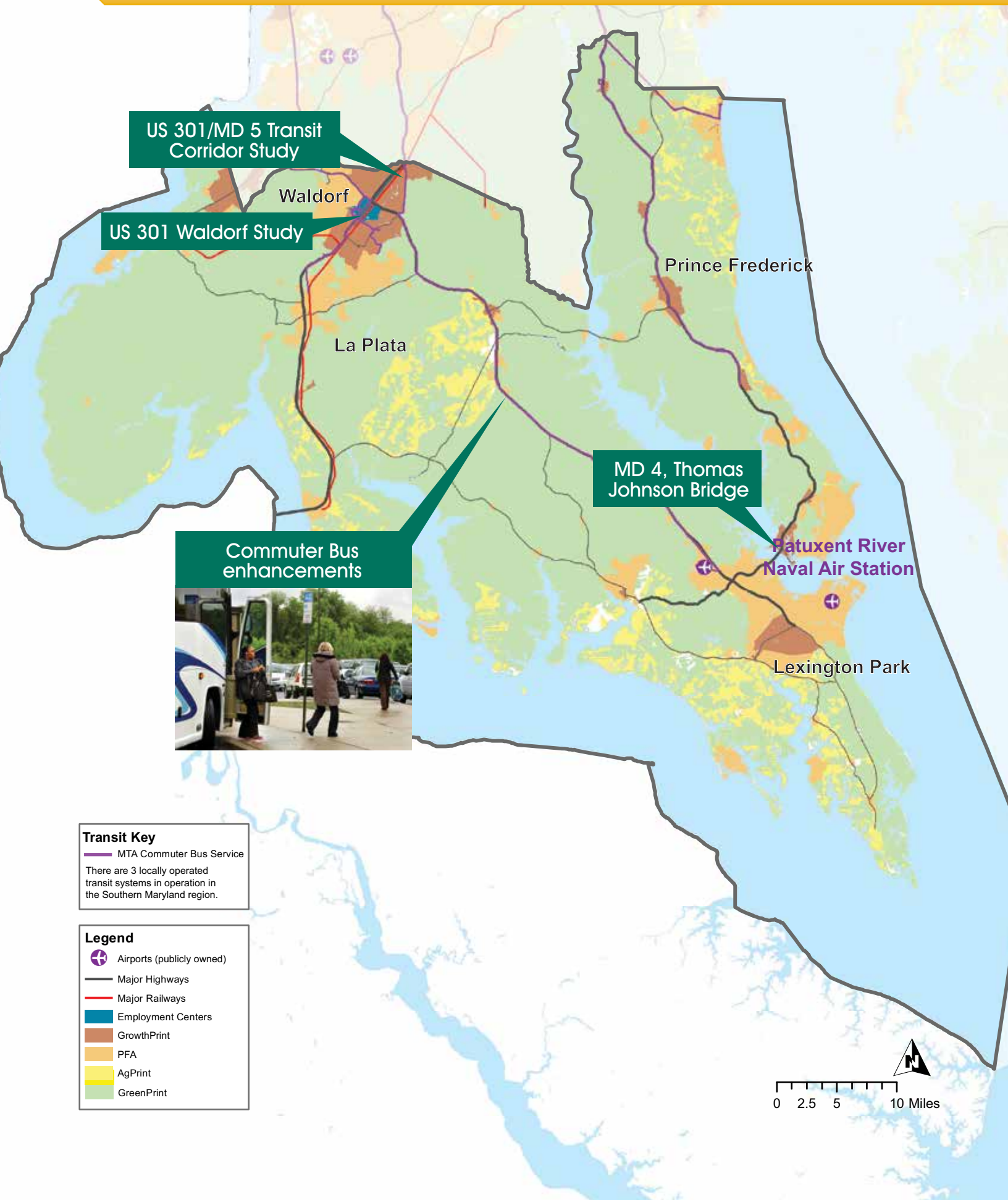
Southern Maryland Region Representative Strategies

Place Types

- Make targeted safety improvements with particular emphasis on reducing crashes on rural, two-lane, undivided roads and reducing truck-related crashes.
- Expand commuter transportation options, including commuter bus, car/vanpooling, park-and-ride facilities, and assess transit feasibility.
- Implement Complete Streets policies to include consideration of potential transit options and to better connect existing bicycle and pedestrian facilities.
- Work in partnership with local jurisdictions and state agencies to revitalize urban centers, towns and suburbs, and support economic development opportunities in rural centers.
- Maintain truck facilities to ensure goods movement.

Patuxent Beach Road (MD 4) in St. Mary's County

Southern Maryland Region with Illustrative Projects



Key Regional Transportation Strategies – Western Maryland Region

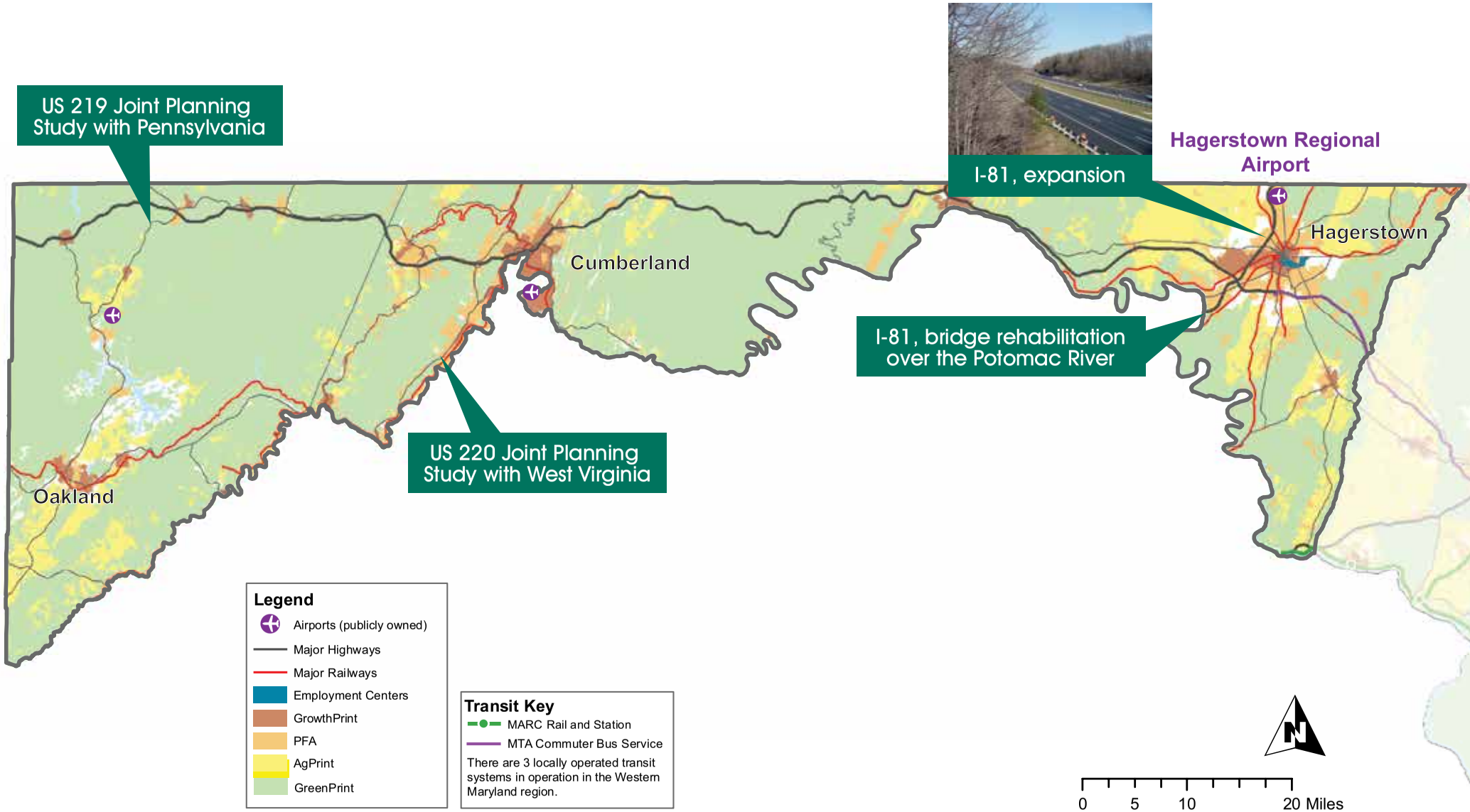
Western Maryland Region Representative Strategies

Place Types

- Make targeted safety improvements with particular emphasis on reducing crashes on rural, two-lane, undivided roads and reducing truck-related crashes.
- Manage peak hour congestion on regionally significant corridors through targeted operational strategies.
- Ensure that application of Complete Streets policies correspond with needs and opportunities related to local Main Streets, Trail Towns Network, and other areas of economic interest in the region.
- Work in partnership with local jurisdictions and state agencies to revitalize urban centers, and towns and suburbs.
- Address truck related bottlenecks on regionally significant corridors, such as I-68, I-70 and I-81.
- Develop additional truck parking capacity.

Deep Creek Lake in Garrett County

Western Maryland Region with Illustrative Projects



Implementing the Plan – Concluding Remarks

Maryland faces many transportation challenges. Low-density development and population growth bring pressure for costly new transportation infrastructure that can also entail environmental impacts, while aging transportation facilities will become increasingly costly to maintain. Fuel taxes no longer stretch as far because of a combination of construction cost inflation, shrinking federal support for transportation, declining per capita vehicle miles traveled and more fuel-efficient vehicles. Meanwhile, Maryland's population is aging, becoming more diverse, and adopting new technologies—trends which are changing travel patterns in ways that will make the next 20 years on the State's transportation network look quite different from the last 20 years.

The 2035 MTP prepares Maryland to move forward to a more interconnected and multimodal statewide transportation system that can sustain a thriving economy, while protecting and enhancing Maryland's communities and environmental resources, and responding to the evolving transportation needs of a changing population. It is based on a combination of public engagement, careful assessment of transportation needs, and open dialogue with many partners. Most significantly, as the following table shows, the MTP adopts a regional framework for addressing the State's biggest transportation challenges:

Challenge	Examples of Key Initiatives	Example of Regional Deployment
Aging Transportation System Assets	Use asset management practices to address bridges with borderline ratings to prevent them from becoming structurally deficient.	All regions
Safety for All Users	Make targeted safety improvements in locations where crash severity index data indicate greatest need.	All regions
Changing Demographic, Economic and Travel Patterns	Build the Red Line in the Baltimore region and the Purple Line in the Washington region, and interconnect them with existing transit services.	Baltimore and Washington metropolitan regions
New Technologies for Transportation	Expand MVA's statewide "Project Core" system to improve convenient customer access to driver and vehicle information, services and products.	All regions
Supporting Community Quality of Life and Wise Land Use Choices	Invest in transportation capacity projects to improve multimodal circulation and integrated transportation systems; support the development of State-designated transit-oriented development sites; and implement Complete Streets policies that meet pedestrian and cyclists' needs.	All regions

The Takoma/Langley Park Transit Center will be a multimodal facility that includes pedestrian and intersection improvements, new bus bays providing interconnected service for multiple bus routes, and transit information services. The center has been designed to accommodate a future Purple Line station, and is a partnership effort between MDOT, Montgomery and Prince George's counties, WMATA and the Metropolitan Washington Council of Governments.

Challenge	Examples of Key Initiatives	Example of Regional Deployment
Managing Congested Infrastructure	Improve congestion and bottlenecks using technology solutions on regionally significant corridors to facilitate access to major employment and activity centers.	Baltimore and Washington metropolitan regions
Building Foundations for Economic Prosperity	Continue to maintain the navigation channel depth and width to allow safe, two-way traffic to and from the Port of Baltimore; improve BWI Marshall Airport and serve Maryland's employment centers and freight corridors.	Baltimore and Washington metropolitan regions
Assuring Environmental Quality	Strategize transportation expansion investments in areas susceptible to sprawl development and climate change impacts and invest in sustainable transportation solutions.	All regions

The regional framework for the MTP does not preclude flexibility in pursuing transportation strategies as needed. Just because a potential project doesn't appear to "fit" neatly within a regional framework or place type, it is not necessarily dismissed from further consideration. Ultimately, however, the 2035 MTP sets out clear guidance on implementing principles and priorities for MDOT, its modal agencies, local governments and a host of other partners with respect to project assessment and selection in future versions of the State's six-year Consolidated Transportation Program.

TRACKING PERFORMANCE

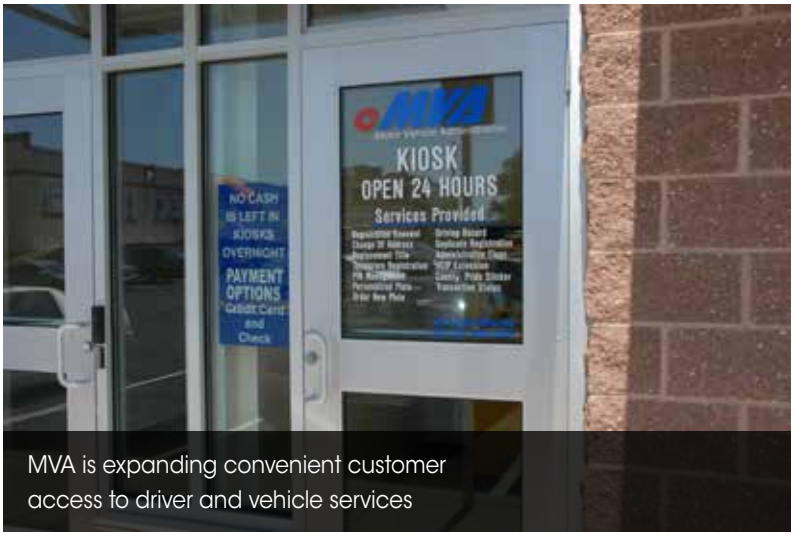
Monitoring performance measures associated with the six goals of the MTP helps inform decision-making, provides accountability, and allows MDOT to evaluate its progress. For over a decade, MDOT has published its Annual Attainment Report on Transportation System Performance, which contains specific measures for tracking performance under each goal area. Thanks to the efforts of the members of the 2014 Attainment Report Advisory Committee, who helped advise MDOT on the selection of updated performance measures and targets, the 2014 report will follow the same goal structure as the 2035 MTP.

Goal: Safety & Security

Lead Agency	Performance Measure
MVA/SHA/MDTA	Annual number of traffic fatalities and personal injuries on all roads in Maryland
MVA/SHA	Number of bicycle and pedestrian fatalities and injuries on all Maryland roads
MTA	Customer perceptions of safety on the MTA system
MTA	Preventable accidents per 100,000 vehicle miles
MAA	Rate of airfield ramp incidents and accidents per 1,000 operations
MAA	BWI Marshall crime rate
MAA	Number of repeat discrepancies in the annual Federal Aviation Administration's Federal Aviation Regulation inspection
MPA	MPA compliance with the Maritime Transportation Security Act of 2002
MVA	Percent of Homeland Security REAL ID Act benchmarks achieved

Goal: System Preservation

Lead Agency	Performance Measure
SHA & MDTA	Percent of roadway miles with acceptable ride quality
SHA & MDTA	Number of bridges and percent that are structurally deficient
MPA	Dredged material placement capacity remaining for Harbor and Poplar Island sites
MTA	Average fleet age of transit revenue vehicles



MVA is expanding convenient customer access to driver and vehicle services

Goal: Quality of Service

Lead Agency	Performance Measure
SHA	Maryland driver satisfaction rating
SHA	Percentage of the Maryland SHA network in overall preferred maintenance condition
MTA	Percent of service provided on time
MTA	Operating cost per passenger trip
MTA	Operating cost per revenue vehicle mile
MTA	Customer satisfaction rating
MVA	Branch office customer visit time versus customer satisfaction rating
MVA	Alternative service delivery transactions as percent of total transactions
MVA	Cost per transaction
MVA	Percent of information system availability compared to total number of records maintained
MAA	Airline cost per enplaned passenger (CPE)
MAA	Percent of BWI Marshall customers rating the airport “good” or “excellent” on key services
MPA	Average truck turn-around time at Seagirt Marine Terminal
MDTA	Overall customer satisfaction of E-ZPass® customers
MDTA	Percent of toll transactions collected electronically

Goal: Environmental Stewardship

Lead Agency	Performance Measure
SHA	Percent of compliance on erosion and sediment control ratings
SHA	Total fuel usage of the light fleet
MPA	Acres of wetlands or wildlife habitat created, restored, or improved since 2000
MVA	Compliance rate and number of vehicles tested for Vehicle Emissions Inspection Program (VEIP) versus customer wait time
MDOT/SHA/MTA	Travel Demand Management; Transportation Emission Reduction Measures (TERMs)
MDOT	Transportation-related emissions by region
MDOT	Transportation-related greenhouse gas emissions

MDOT's modal agencies are implementing a broad set of pollution control strategies to ensure the water quality improvement goals of the Chesapeake Bay Watershed Implementation Plan are met

Goal: Community Vitality

Lead Agency	Performance Measure
MTA	Average weekday transit ridership
MTA	Annual revenue vehicle miles of service provided
SHA	Percentage of State-owned roadway directional miles within urban areas that have sidewalks and percent of sidewalks that meet Americans with Disabilities Act (ADA) compliance*
SHA	Percentage of State-owned roadway centerline miles with a bicycle level of comfort (BLOC) grade "D" or better*
SHA	Number of directional miles improved for bicycle access
SHA & MDTA	Percent of VMT in congested conditions on freeways/expressways and arterials in Maryland during the evening peak hour
MPA	Intermodal containers moved by rail through the Port

**These measures may be modified in the future based on recommendations in the updated Bicycle and Pedestrian Master Plan.*

Community vitality-related strategies ensure consideration of all modes and types of transportation when developing or redeveloping the State's transportation system

The MTP's economic prosperity-related strategies help keep freight moving in Maryland

Goal: Economic Prosperity

Lead Agency	Performance Measure
TSO	Originating and terminating freight in Maryland
MPA	Revenue operating expense and net income
MPA	Port of Baltimore foreign cargo and MPA general cargo tonnage
MPA	International cruises using the Port of Baltimore
MAA	Number of nonstop airline markets served
MAA	Non-airline revenue per enplaned passenger (RPE)
SHA	Percent of roadway access permits issued within 21 days or less (after receipt of a complete application package)
SHA	User cost savings for the traveling public due to incident management

Endnotes

1 Federal Highway Administration, Highway Statistics 2012 (2013)

2 Federal Highway Administration, Highway Statistics 2012 (2013)

3 Maryland DOT, 2014 Annual Attainment Report (2014) [Annual Number of Vehicle Miles Traveled chart]

4 MARC ridership data source: Maryland DOT, 2014 Annual Attainment Report (2014)

Amtrak ridership data source; Amtrak press release, Amtrak Sets Ridership Record (Oct 14, 2013)

5 Maryland DOT, 2014 Annual Attainment Report (2014)

6 Maryland DOT, 2014 Annual Attainment Report (2014)

7 Maryland DOT, 2014 Annual Attainment Report (2014)

8 U.S. Census Bureau: American Community Survey (2010-12 3-year data)

9 Maryland DOT, 2014 Annual Attainment Report (2014)

10 Maryland DOT, 2012 Annual Attainment Report (2012) [Originating and Terminating Freight in Maryland chart]

11 Maryland DOT, 2014 Annual Attainment Report (2014)

12 Maryland DOT, 2014 Annual Attainment Report (2014)

13 Maryland StateStat webpage; Maryland Total Resident Population, 2000 to 2012 https://data.maryland.gov/Demographic/Maryland-Total-Resident-Population-2000-2012/mxzh-dgpu (retrieved Dec 4, 2013)

14 Population Division, U.S. Census Bureau, release date March 14, 2013 (as prepared by the Maryland Department of Planning, March 2013)

15 Maryland Department of Planning; Total Historical and Projected Labor Force Participation Rates, 1970-2040 (April 2012) http://www.mdp.state.md.us/msdc/s3_projection.shtml (Retrieved Dec 4, 2013)

16 Maryland StateStat webpage; Average Weekday Transit Ridership by Fiscal Year; https://data.maryland.gov/Transportation/Average-Weekday-Ridership-Total-Transit-Trips-by-F/xmdp-9ku6 (retrieved Dec 4, 2013)

17 Maryland SHA; 2012 Maryland State Highway Mobility Report (2012)

18 University of Maryland, National Center for Smart Growth, Challenges and Opportunities for Economic Prosperity in the 21st Century (2012)

19 Maryland Department of the Environment (MDE), Maryland's Plan to Reduce Greenhouse Gas Emissions, p. 8, July 25, 2013

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