



# TRANSPORTATION OUTLOOK

2035

Creating a Blueprint for the Baltimore Region's Future

## EXECUTIVE SUMMARY

*Draft Long-Range Transportation Plan*

# Baltimore Regional Transportation Board

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Prepared by the

**Baltimore Metropolitan Council**

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# Letter from the BRTB Chair

As the Chair of the Baltimore Regional Transportation Board (BRTB), I would like to thank all of the individuals and organizations who participated in public meetings and submitted comments on the initial outline of Transportation Outlook 2035. Public involvement is a key part of the transportation planning process and your comments provided valuable assistance to the BRTB as we worked to update the long-range transportation plan for the Baltimore region.

The message from the public was very clear - the world is changing and the Baltimore region must take local action in response to significant changes in the global environment that we share. Pollution and air quality concerns, changes in population density and employment options, congestion and environmental impact of highway traffic are all issues that need to be addressed through greater emphasis on alternative transportation options.

The future will bring many changes to the region:

- Over the coming decades the region will grow to nearly 3 million people.
- Approximately 20 percent of the population will be at or above retirement age and many will leave the work force.
- Meanwhile, the region will add more than 450,000 new jobs, some of them related to the federal government's Base Realignment and Closure (BRAC) process.
- The number of vehicle miles traveled on area roadways is expected to increase by approximately 34% by 2035.
- The volume of truck traffic alone is expected to double by 2030, and by 2035 more than 81 percent of freight in the region will move by highway, despite an extensive rail network.

Transportation Outlook 2035 is a financially-constrained set of capital transportation investments that acknowledge the challenges and opportunities that lie ahead. This plan is not a wish list, but a carefully selected set of projects for which funding is expected to be available.

The state of Maryland is currently facing a \$1.5 billion structural deficit and has more than \$40 billion in unfunded transportation needs. Inflation, the rising cost of materials and the need to maintain and replace the region's aging infrastructure all limit our ability to build new transportation facilities. After careful consideration of the costs of maintaining and operating our existing transportation network, the BRTB determined that \$8.7 billion could be available to finance new capital investments between 2013 and 2035.

Over the coming months, the BRTB will closely monitor the proposals of Governor O'Malley and subsequent actions of the General Assembly. If a revenue enhancement package is approved or additional funding becomes available, the BRTB is committed to re-examining this plan to consider alternatives for utilizing increased funds.

Based on the significant public input on the need for additional transit and expanded transportation choices, the BRTB has reduced the number of highway projects in the plan through the cooperation of every jurisdiction involved. These highway projects were deferred within the Plan and those project funds were shifted into transit.

The BRTB remains committed to creating a balanced transportation system that will serve the needs of the region and its residents, and provide for a prosperous future.



Ken Ulman

Howard County Executive & BRTB Chair

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# What is Transportation Outlook 2035?

## SAFETEA-LU

*THE SAFE, ACCOUNTABLE,  
FLEXIBLE, EFFICIENT  
TRANSPORTATION EQUITY ACT:  
A LEGACY FOR USERS*

SAFETEA-LU provides federal funding for surface transportation programs.

Some of the metropolitan planning highlights of the Act include:

- A new emphasis on highway and pedestrian safety and reducing highway fatalities
- Flexibility to address congestion-relief through a range of strategies
- A requirement to include environmental protection, growth patterns, safety and security concerns in transportation planning
- Formal guidelines for public participation, including the use of visualization techniques
- Transportation equity initiatives to assist the elderly, people with disabilities and those in need of specialized transportation

Transportation Outlook 2035 is the update to the Baltimore region's fiscally-constrained long-range transportation plan. The federally-mandated plan outlines capital investments that seek to address the region's transportation needs for the years 2013 through 2035. The plan is tested to ensure compliance with federal air quality standards. All future capital transportation investments must be included in the plan in order to receive federal aid.

## PLAN REQUIREMENTS

Transportation Outlook 2035 must:

- Outline strategic capital investments
- Recognize fiscal constraint
- Comply with air quality standards
- Provide transportation choices

The long-range transportation plan is developed by the Baltimore Regional Transportation Board (BRTB), the federally-designated Metropolitan Planning Organization (MPO) for the Baltimore region. The BRTB is a 10-member policy board which includes representatives of the cities of Annapolis and Baltimore; Anne Arundel, Baltimore, Carroll, Harford and Howard counties; and the Maryland Departments of Transportation, the Environment and Planning. MPOs must update their long-range transportation plans every four years to meet federal transportation planning requirements.

The BRTB's mission is to provide regional transportation planning and policy making for the Baltimore region and to develop a balanced multi-modal transportation investment plan that satisfies the federal mandates of SAFETEA-LU and the 1990 amendments to the Clean Air Act. Past long-range transportation plans included such major capital investments as the extension of the Baltimore Metro to Johns Hopkins Hospital, the Baltimore Central Light Rail, MD 100, MD 43 and numerous transportation expenditures that promote cost effective and efficient alternatives to driving alone.

# Creating a Blueprint for the Baltimore Region's Future

The two-year process for developing Transportation Outlook 2035 involved a series of steps, outlined on the following pages.

## CREATING A VISION

Transportation Outlook 2035 envisions a robust multi-modal transportation system that efficiently moves people and goods while accommodating the region's future growth and prosperity. The BRTB's vision for a regional transportation system:

- Is multi-modal, emphasizing both regional and local transit options;
- Recognizes the relationship between land use, transportation and environmental stewardship; and
- Addresses the expected influx to the region of new jobs and households associated with Base Realignment and Closure (BRAC).

## UNDERSTANDING FINANCIAL REALITIES

Transportation Outlook 2035 is fiscally-constrained, which means that future revenue must be sufficient to fund the estimated cost of transportation investments outlined in the plan. This requirement is mandated by federal legislation. Revenue projections are based on historic patterns of federal, state and local transportation funding for the Baltimore region. As a result, the projects that are outlined in the plan do not reflect all the investments the BRTB believes are necessary to meet the future mobility needs of the region. Rather, the plan is an effort to balance the region's needs with fiscal reality and prioritize strategic investments accordingly.

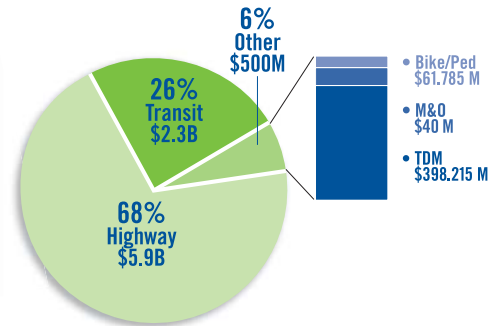
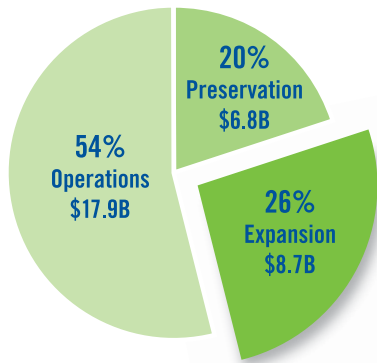


# Understanding the Financial Realities

## ESTIMATING FUTURE REVENUES AND COSTS

A BRTB analysis estimates that a total of \$33.4 billion will be available to operate, maintain and expand the region's transportation system through the year 2035. Operational costs are expected to be \$17.9 billion and system preservation costs are expected to be \$6.8 billion, leaving only \$8.7 billion for capital expansion investments. Just 26 percent of the total transportation funding for the Baltimore region will be available for system expansion, which is the primary focus of Transportation Outlook 2035.

Estimated allocations were based on spending patterns over the last 25 years. According



### OVERALL

The total amount of funding available through the year 2035 was assessed at approximately \$33.4 billion dollars, in constant 2007 dollars. This amount covers three areas: Operations, Preservation, and Expansion.

### EXPANSION

\$8.7 billion has been set aside for Expansion Projects. These projects fall under three categories: Transit, Highway and Transportation Demand Management (TDM).

to the Maryland Department of Transportation (MDOT), between fiscal years 1997 and 2006, 47 percent of its operating budget was spent on transit, while 55 percent of its capital budget was devoted to highway projects and 28 percent

to transit. Overall, highways accounted for 39 percent of the combined operating and capital budget, and transit accounted for 35 percent. This pattern is likely to continue.

#### OPERATIONS \$17.9 BILLION

Funding covers the day-to-day operations of the transportation system. For transit, this includes the cost of running buses and trains, and for highway, it may include maintenance projects that are of a smaller scale than preservation projects (i.e., filling potholes, clearing debris, etc.).

#### PRESERVATION \$6.8 BILLION

System preservation is essential to keeping a safe and well-run transportation system. This includes activities such as resurfacing roads, repairing bridges, maintaining buses and transit tracks, etc.

#### EXPANSION \$8.7 BILLION

This is funding for all capacity improvements. These include projects such as building a new transit line, increasing lanes on a highway, or adding a new bicycle and pedestrian trail.

#### HIGHWAY & INTERCHANGE \$6 BILLION

Projects funded include federal aid eligible highways and roadways maintained by the State Highway Administration, as well as each local jurisdiction.

#### TRANSIT \$2.2 BILLION

Transit projects in this category include a new rail service and MARC improvements operated by the Maryland Transit Administration.

#### OTHER STRATEGIES \$0.5 BILLION

This category includes: capital improvements, technical enhancements, and commuter assistance. Capital improvements include the purchase of alternative fuel buses, bicycle and pedestrian enhancements, and strategies to optimize system performance.

# Addressing the Budget Shortfall

## MDOT OPERATING PROGRAM, FY 1997-2006

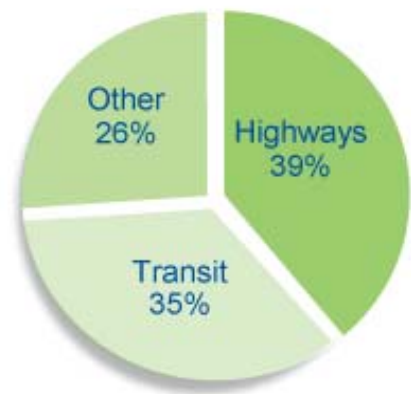
Operating expenses over the last 10 years have been distributed as follows: 47% Transit (MTA and WMATA), 19% SHA, 12% MVA, 9% MAA, 8% MPA, and 5% TSO.



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## COMBINED OPERATING & CAPITAL EXPENDITURES, FY 1997-2006

A breakdown of combined operating and capital expenditures show that over the last 10 years, 39% of funding went to highways, 35% to transit (MTA and WMATA), 11% to airports, 6% to seaports, 6% to motor vehicles, and 3% to MDOT Headquarters.



As the BRTB began work on Transportation Outlook 2035, it became clear that projected revenues would not adequately meet the region's transportation needs over the next 25 years.

Funding to support system preservation, operations and new capital expansion projects has not kept pace with increasing costs for materials and labor, according to the 2003 Maryland Transportation Needs and Funding Report. Overall costs of transportation improvements have gone up 42 percent since 2004 and are projected to increase due to the worldwide demand for materials such as concrete and steel.

Without adequate funding, the BRTB was forced to exclude significant capital expansion of the region's transit network from Transportation Outlook 2035. Needed highway capacity investments were also excluded from the plan as a result of the funding shortfall. These factors are likely to place more demands on an already overburdened roadway network.

A revenue enhancement package proposed by Governor O'Malley would provide an additional \$400 million annually to the Transportation Trust Fund.

A state gas tax increase is not included in this enhancement package. The strategy of "indexing" the current gas tax to the Construction Costs Index (CCI) would increase funding for the Transportation Trust Fund commensurate with rising construction costs. Transportation Outlook 2035 does not include funds from either of these strategies.

Transportation revenue enhancements would allow the BRTB to re-examine the mix of capital highway and transit investments in Transportation Outlook 2035. Additional revenue could provide more transportation choices, such as enhanced MARC commuter rail service and further expansion of Baltimore's regional transit system.

Over the coming months, the BRTB will monitor the actions of the Maryland General Assembly and work together to identify key investments that will help create a balanced transportation system.

# Setting a Course for the Future

Decision makers must understand regional travel behavior to implement efficient and effective transportation solutions.

Anticipated changes in the age of the region's population and the numbers and locations of households and jobs will create mobility challenges.

The BRTB identified the following challenges to be addressed by Transportation Outlook 2035.

## *TRANSPORTATION CHOICES*

**Challenge:** *Managing investment tradeoffs among transportation modes to achieve policy objectives,*

*performance goals, and balance between geographic regions and market segments to meet the needs of diverse users.*

Transit provides basic mobility and expanded opportunities to people without the use of a car, provides broader transportation choices to people with cars, and reduces travel times and road congestion in major transportation corridors. It also facilitates economic development, and supports environmentally sustainable communities.

Highways form the backbone of America's transportation system,

connecting all parts of the region to one another and beyond. They are critical for operating efficient local, regional, and commuter bus services, facilitating freight movement, and for providing personal mobility.

Likewise, bicycling and walking provide opportunities for short trips and for extending highway and transit trips.

## *AGING INFRASTRUCTURE*

**Challenge:** *Devoting a sufficient level of funding to maintain the region's highways, bridges, rail systems and tunnels, while developing new transportation projects that will require funds for operations and maintenance in the future.*

During the 1960s and 1970s, the emphasis was on building the interstate highway system to facilitate the movement of cars and trucks across the continent. That system has aged and is in need of rehabilitation. Other aging infrastructure also needs to be replaced. While adding capacity in targeted areas is important, we must also improve the performance and operation of the existing transportation system and the way that system is repaired and replaced.



# Addressing Challenges and Opportunities

## SOCIO-ECONOMIC GROWTH

**Challenge:** Forecasting how growth will affect small areas twenty years from now, and then planning to meet changing travel demands.

Transportation planning and analysis require a wealth of statistics on population, commuting patterns, housing, and travel behavior. Variables such as age composition, household size and family type, along with labor force participation and income levels, have profound effects on the rate and type of development.

Socio-economic forecasts are created around small geographic areas and are used as inputs in travel demand modeling. Accurate estimates and forecasts strengthen the entire transportation planning process.

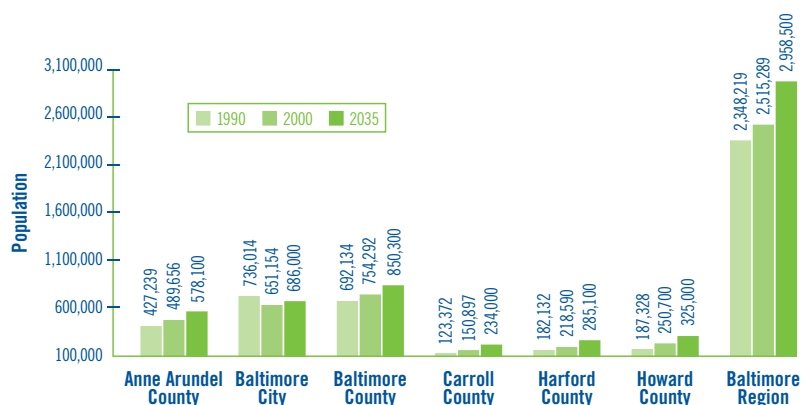
## NEW MILITARY EMPLOYMENT

**Challenge:** Understanding how many workers and households are likely to move into the region because of BRAC, and how to accommodate that growth in ways that will create the least amount of sprawl and additional congestion.

Growth will take place at Fort Meade and Aberdeen Proving

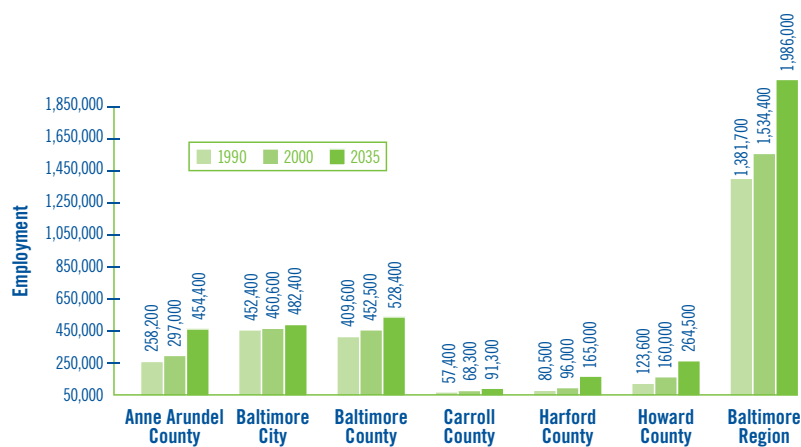
## BALTIMORE REGION POPULATION

Round 7 Cooperative Forecasts



## BALTIMORE REGION EMPLOYMENT

Round 7 Cooperative Forecasts



Ground (APG) as a result of BRAC. Legislation directs military personnel and most embedded contractors to be in place by 2011, followed by other contractors through 2015. Other related employment will occur through 2020.

According to the Maryland Department of Planning, the

Baltimore region can expect to add approximately 19,000 households and 32,000 jobs over the next 15 years because of BRAC. The BRTB must consider how projected employment and associated population and household growth will affect traffic and travel.

# Addressing Challenges and Opportunities

## DEMAND FOR NEW CAPACITY

**Challenge:** *Making the best use of limited resources to provide targeted capacity improvements and travel choices to meet current and projected demand.*

Due to the rising cost of materials and inflation's impact on buying power, all available revenue is dedicated to projects currently in the state Consolidated Transportation Program; there is no ability to add new projects.

## GOODS MOVEMENT EXPLOSION

**Challenge:** *Creating additional transportation choices by improving the rail network, which will result in a better balance in freight movement.*

The Baltimore region is a major multi-modal freight hub. The Port of Baltimore is one of two East Coast ports with a 50-foot channel, making it a gateway for general cargo such as containers and vehicles, and bulk cargo such as gypsum and iron ore. Once these goods leave the maritime network, they become rail and truck cargo.

The region's rail network includes tunnels that cannot accommodate the double-stacking of containers. Therefore, most containers leaving

the port move by truck. According to a consultant's report, in 2030 trucks are projected to carry more than 81 percent of total freight both by tonnage and by value in the Baltimore region.

## ENVIRONMENTAL STEWARDSHIP

**Challenge:** *Meeting federal, state and local environmental goals in the face of projected growth.*

This planning process involved new partnerships with state and federal regulatory agencies, and considered the relationship between the plan as a whole and the region's natural and historic resources.

An issue garnering significant attention is climate change related to greenhouse gases. While there are no established standards for greenhouse gases, and Transportation Outlook 2035 does not directly address the issue of climate change, the plan's overall goals for vehicle emissions should

have a positive effect on the region's inventory of greenhouse gases.

## SUSTAINABLE COMMUNITIES AND URBAN CORE

**Challenge:** *Developing a comprehensive planning process which integrates economic, social and environmental systems.*

Sustainable communities meet the needs of the present without compromising the ability of future generations to meet their own needs.

Applying this concept to transportation requires a more comprehensive planning process than what is currently in place. However, doing so is essential to reducing pollution and protecting the environment, encouraging economic development, and improving public health. As such, the BRTB is committed to integrating sustainability into the planning process over time.



# Choosing What's Best for the Region

## PRIORITIZING INVESTMENTS

The BRTB used a planning process called “prioritization” to select capital investments that collectively achieve efficient and cost effective solutions to current and future transportation challenges.

The BRTB developed criteria and a subsequent list of six “Regionally Significant” projects that are of critical importance to all users of our transportation system. Local government BRTB members then worked with MDOT to identify future transportation projects that were consistent with local priorities. Over 130 highway, transit, bicycle, pedestrian and management and operations projects were submitted for consideration.

Prioritization allowed for a review of both the policy and technical merits of each project. Policy criteria centered on such project components as consistency with local comprehensive plans and Smart Growth, economic development and inter-jurisdictional cooperation. Technical criteria focused on system mobility, congestion and safety. The prioritization process ensured that selected projects will advance

regional goals and promote viable transportation choices.

## INVOLVING THE PUBLIC

Over the two-year course of developing Transportation Outlook 2035, the BRTB proactively engaged various stakeholders, bringing many points of view into the planning process. A restructured Citizens Advisory Committee, which is representative of the community, met regularly and provided feedback to the BRTB as the plan was developed.

Based on project prioritization, available revenues, system performance and citizen input, the BRTB developed a multi-modal agenda of transportation investments. A draft of Transportation Outlook 2035 was released for public review, by using the best practices for public outreach and participation. At least one public outreach event was held in each of the BRTB’s member jurisdictions. The BRTB also used technologies such as electronic newsletters, frequent updates on the Baltimore Metropolitan Council’s web site and digital imagery to engage the public.

## GET INVOLVED

### *SHARE YOUR THOUGHTS*

Comments may be submitted online at [www.baltometro.org](http://www.baltometro.org) or in writing to The Baltimore Regional Transportation Board, 2700 Lighthouse Point East, Suite 310, Baltimore, MD 21224, by e-mail to [comments@baltometro.org](mailto:comments@baltometro.org), or by fax to 410-732-8248.

All comments must be received by 4:30 p.m. on Friday, November 13, 2007. Public testimony is also welcome at the BRTB meeting at 9 a.m. on Tuesday, October 23 or Tuesday, November 27, 2007.

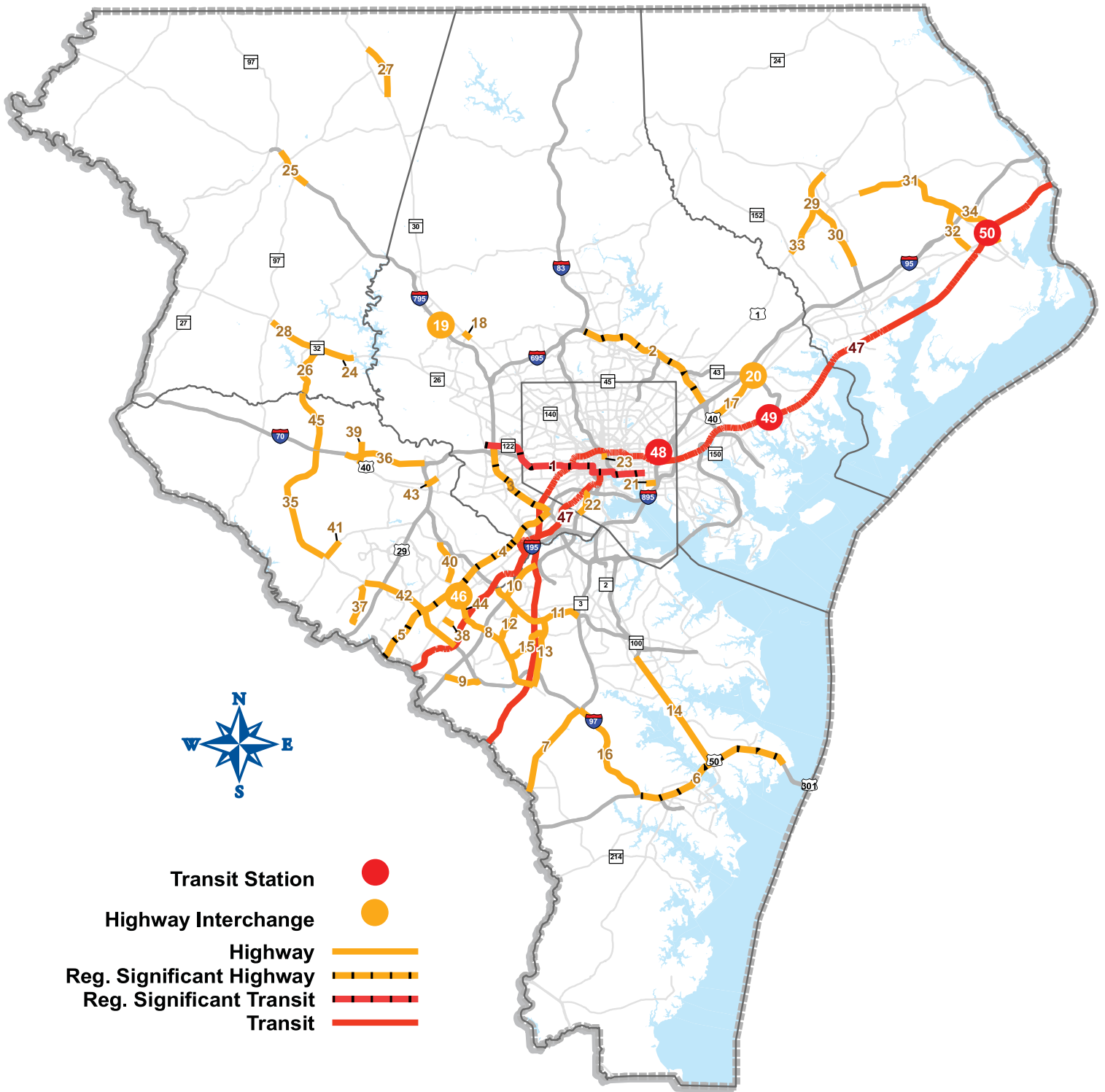
A public meeting will be held from 6 to 8 p.m. on Thursday, November 1, 2007 at the BMC offices (2700 Lighthouse Point East, Suite 310, Baltimore, MD 21224).

### *FOR ADDITIONAL INFORMATION*

Visit [www.baltometro.org](http://www.baltometro.org) or contact Monica Haines at 410-732-0500 x1047 for additional information about Transportation Outlook 2035, the BRTB, or the planning process.

*Additional copies of this draft plan are available at public libraries throughout the region, as well as planning offices in each jurisdiction.*

# Highway and Transit Projects



# Highway and Transit Projects

## REGIONALLY SIGNIFICANT

1. Red Line – Social Security to Bayview: Construct an East-West rapid transit system (2015)
2. I-695 – I-83 Harrisburg to I-95 North: Widen to 8 lanes (2015)
3. I-695 – I-95 South to MD 122: Widen to 8 lanes (2015)
4. I-95 South – I-695 (Arbutus) to Baltimore/Howard Co line: Widen to 10 lanes (2020)
5. I-95 South – Baltimore/Howard Co line to Howard//Prince Georges Co line: Widen to 10 lanes (2020)
6. US 50/301 – I-97 to Bay Bridge: Add 2 lanes (2020)

## HIGHWAY

7. MD 3 – Anne Arundel/Prince Georges Co line to MD 32: Widen to 6 lanes; New interchange at MD 450 (2030)
8. MD 175 – Anne Arundel County line to MD 295: Widen to 3 lanes; MD 295 to MD 170: Widen to 6 lanes (2015)
9. MD 198 – MD 295 to MD 32: Widen to 4 lanes (2015)
10. MD 295 – I-195 to MD 100: Widen to 6 lanes; Full interchange at Hanover Rd (2015)
11. MD 100 – Anne Arundel/Howard Co line to I-97: Widen to 6 lanes (2025)
12. MD 713 – MD 175 to Arundel Mills Blvd: Widen to 4 lanes; Arundel Mills Blvd to MD 176: Widen to 6 lanes (2025)
13. MD 170 – MD 175 to MD 100: Widen to 4 lanes (2020)
14. MD 2 – US 50 to MD 10: Widen to 6 lanes (2030)
15. MD 174 – MD 175 to MD 170: Capacity improvements (2025)
16. I-97 – MD 32 to US 50/301: Widen to 6 lanes (2025)
17. MD 7 – Rossville Blvd to Cowentown Ave: Widen to 4 lanes (2014)

18. MD 140 – Garrison View Rd to Owings Mills Blvd: Widen to 6 lanes (2013)
19. I-795 – Pleasant Hill Rd and Dolfield Rd: New interchange and improve ramps (2015)
20. MD 7 – Interchange at MD 43: Partial to full interchange (2015)
21. Boston Street – Conkling St to Ponca St: Widen to 4 lanes (2013)
22. Russell Street Gateway – I-95 to City Line: Add North and South bound lanes to ramp; Intersection upgrades; Add a lane from I-95 to Baltimore City line (2013)
23. Martin Luther King Blvd/I-83 Connector: Extension and partial interchange at I-83 North and South bound ramps (2020)
24. MD 26 – MD 32 to Liberty Reservoir: Widen to provide continuous right turn lanes (4 through, 2 auxiliary) (2015)
25. MD 140 – Market St to Sullivan Rd: Widen to 8 lanes; Full interchange at MD 97 South; Continuous flow intersections at Center St and Englar Rd (2020)
26. MD 32 – MD 26 to Carroll/Howard Co line: Widen to 4 lanes (2020)
27. MD 30 (Manchester Bypass) – Brodbeck Rd to north of MD 86: New 2 lane road (2030)
28. MD 26 – MD 32 to MD 97: Widen to 4 lanes (2025)
29. US 1 Bypass – Hickory to MD 147/ Business US 1: Widen to 4 lanes with interchange improvement (2020)
30. MD 24 – Singer Rd to Business US 1: Widen to 6 lanes (2015)
31. MD 22 – MD 543 to I-95: Widen to 4 lanes (2020)
32. MD 715 – US 40 to MD 22: New 4 lane road (2020)
33. US 1 – MD 147/Business US 1 to MD 152: Widen to 6 lanes (2020)

34. MD 22 – I-95 to APG Gate: Widen to 6 lanes (2030)
35. MD 32 – MD 108 to I-70: Widen to 4 lanes; Full interchanges at Dayton Shop Rd, Rosemary Lane, and MD 144; Upgrade I-70 interchange (2015)
36. I-70 – US 40 to US 29: Widen to 6 lanes; Upgrade to full interchange at Marriottsville Rd (2020)
37. Sanner Rd North – Johns Hopkins Rd to Pindell School Rd: Widen to 4 lanes (2015)
38. Patuxent Range Rd – US 1 to Dorsey Run Rd: Widen to 4 lanes (2015)
39. Marriottsville Rd – MD 99 to US 40: Widen to 6 lanes (2015)
40. MD 108 – MD 104 to MD 175: Widen to 4 lanes (2020)
41. MD 108 – Trotter Rd to MD 32: Widen to 4 lanes (2025)
42. MD 32 – Cedar Lane to Howard/AA Co line: Widen to 8 lanes; Expand capacity of the interchanges (2015)
43. US 40 – St Johns Lane to Rogers Ave: Capacity, operational, and safety improvements along US 40 and local roads; Ramp improvements at US 40/US 29 interchange (2025)
44. MD 175 – US 1 to Howard/AA Co line: Widen to 5 lanes (2020)
45. MD 32 – I-70 to the Howard/Carroll Co line: Widen to 4 lanes (2015)
46. US 1 – US 1 at MD 175: New full interchange (2015)

## TRANSIT

47. MARC Improvements (Ongoing)
48. MARC East Baltimore Station – New station (2015)
49. MARC Middle River Station – Relocate with station improvements (2015)
50. MARC Aberdeen Station – Relocate with station improvements (2015)

**KEY:** *Project name - Limits: Description (Year open)*

# A Multi-Modal Approach to Managing Demand

## MANAGING DEMAND

### Transportation Demand

Management (TDM) is a general term for strategies that provide alternatives to single occupancy automobile travel, reduce peak period congestion, improve air quality by reducing emissions, and save energy. Additionally, managing travel demand has broadened to encompass the desire to optimize transportation system performance.

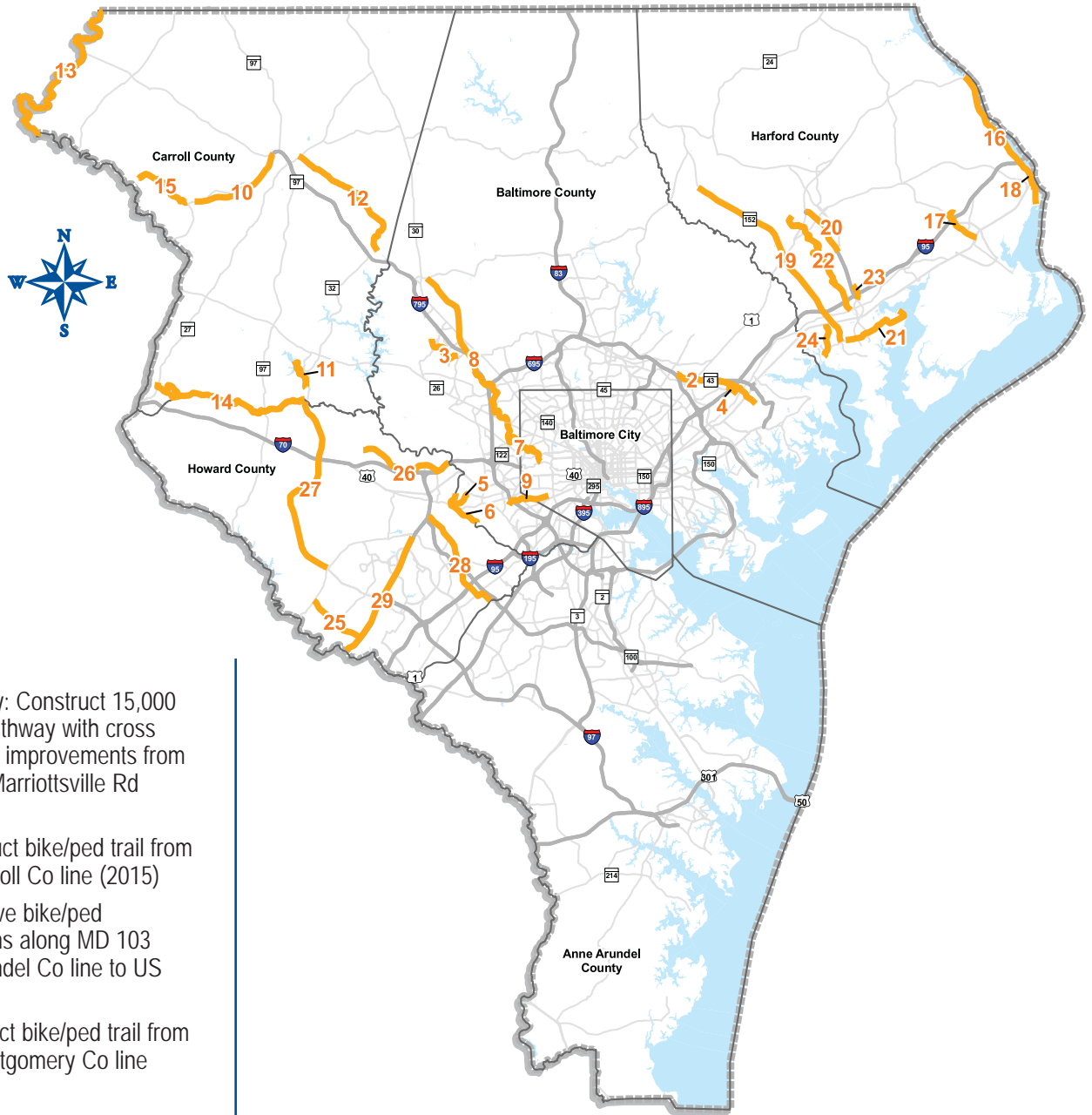
There are many different TDM strategies with a variety of impacts: from improving transportation options, to incentivizing changes in travel behavior, to reducing the need for physical travel. The cumulative impacts of a comprehensive TDM program can be significant.

As with previous plans, Transportation Outlook 2035 directs considerable funding to TDM and alternative travel options. Since many of these strategies are fluid over time, the BRTB has identified three general categories of future projects: technologies (clean fuel vehicles and hybrids), behavioral (preferential parking for carpools, vanpools), and capital improvements (signal systemization).

### BICYCLE AND PEDESTRIAN

1. Baltimore City Bicycle Network: Implement Bicycle Master Plan throughout Baltimore City (2013-2020) \*\*
2. White Marsh Run Trail: Construct shared-use trail Avondale Rd to Bird River Rd (2014)
3. Red Run Trail: Construct shared-use trail Gwynns Falls to Soldier's Delight (2014)
4. Campbell Boulevard Trail: Construct shared-use trail parallel to Campbell Boulevard from White Marsh Mall to MD 7 (2014)
5. #8 Trolley Line: Pave existing trail from Edmondson Ave to Frederick Ave (2014)
6. Patapsco Greenway Connector: Construct shared-use trail from Oella to Ilchester Road Bridge (2014)
7. Gwynns Fall Trail South: Construct shared-use trail from Owings Mills Town Center to Gwynns Falls (2020)
8. Gwynns Fall Trail North: Construct shared-use trail from Owings Mills Town Center to Glyndon (2020)
9. Caton Loudon Trail: Construct shared-use rail trail from Loudon Cemetery to Spring Grove (2020)
10. Wakefield Valley Community Trail: Construct trail along MD 31 from New Windsor MD 31 to Westminster (2015)
11. Piney Run/Sykesville Trail: Construct trail from Piney Run Park to Sykesville (2015)
12. North & West Branch Patapsco Trail: Construct trail from Liberty Reservoir to east of Westminster (2020)
13. Monocacy River Scenic Greenway: Construct trail along the Monocacy River (2020)
14. Patapsco Regional Trail: Construct trail in a greenway corridor along the South Branch of the Patapsco River from Mt. Airy to Sykesville (2020)
15. Little Pipe Creek Trail: Construct macadam trail along the Little Pipe Creek corridor from Union Bridge to New Windsor (2025)
16. Lower Susquehanna Heritage Greenway Trail: Construct bike/ped trail from Conowingo Dam along the Susquehanna River to Havre de Grace (2013)
17. Aberdeen Area Bikeway (MD 132): Construct bike/ped trail from Ripken Stadium to Aberdeen MARC Station (2015)
18. Havre de Grace Bikeway: Construct bike/ped trail from Juanita Street to Tydings Park (2015)
19. MD 152 Corridor Bikeway: Construct bike/ped trail from Hess Rd to Trimble Rd (2015)
20. MD 24 Bikeway: Construct bike/ped trail from US 1 to Bel Air South Parkway (2015)
21. Trimble Road Bikeway: Construct bike/ped trail from Edgewood Recreational Park to Flying Point Park (2015)
22. Winters Run Greenway: Construct bike/ped trail from Tollgate Rd to Winters Run (2015)
23. Woodsdale Rd/Waldon Rd Bikeway: Construct a bike/ped trail, along Woodsdale Rd and Walden Rd, from MD 924 to Edgewood Rd (2016)
24. Colonial Joppa Greenway Trail: Construct bike/ped trail in the Foster Run Stream Valley Corridor from MD 40 to Mariner Point Park (2020)
25. MD 216: Bike/ped improvements from US 29 to MD 108 (2013)

# Bicycle, Pedestrian, Management & Operations Projects



- 26. MD 99 Pathway: Construct 15,000 linear feet of pathway with cross walk and signal improvements from I-70 Bridge to Marriottsville Rd (2015)
- 27. MD 32: Construct bike/ped trail from MD 108 to Carroll Co line (2015)
- 28. MD 103: Improve bike/ped accommodations along MD 103 from Anne Arundel Co line to US 29 (2015)
- 29. US 29: Construct bike/ped trail from MD 108 to Montgomery Co line (2020)

## MANAGEMENT AND OPERATIONS\*\*

- Expand real-time monitoring of roadway conditions and enable all jurisdictions access to information, including emergency dispatch enters.
- Provide travelers with real-time information about conditions on all freeways, major arterials, and alternate routes.
- Allow highway and signal operations agencies to coordinate signal timing systems in response to conditions.
- Enhance the collection and distribution of real-time information to include monitoring of transit system status and disseminating this information to travelers. This project will enhance daily operation as well as improve system security.

\*\* These projects are not site specific and therefore are not on the map.

# Will Transportation Outlook 2035 Be Successful?

The true test for Transportation Outlook 2035 is whether it will actually improve regional mobility, reduce time spent in congestion and enhance our quality of life. The BRTB will monitor system performance, and will address unmet goals in each successive plan update.

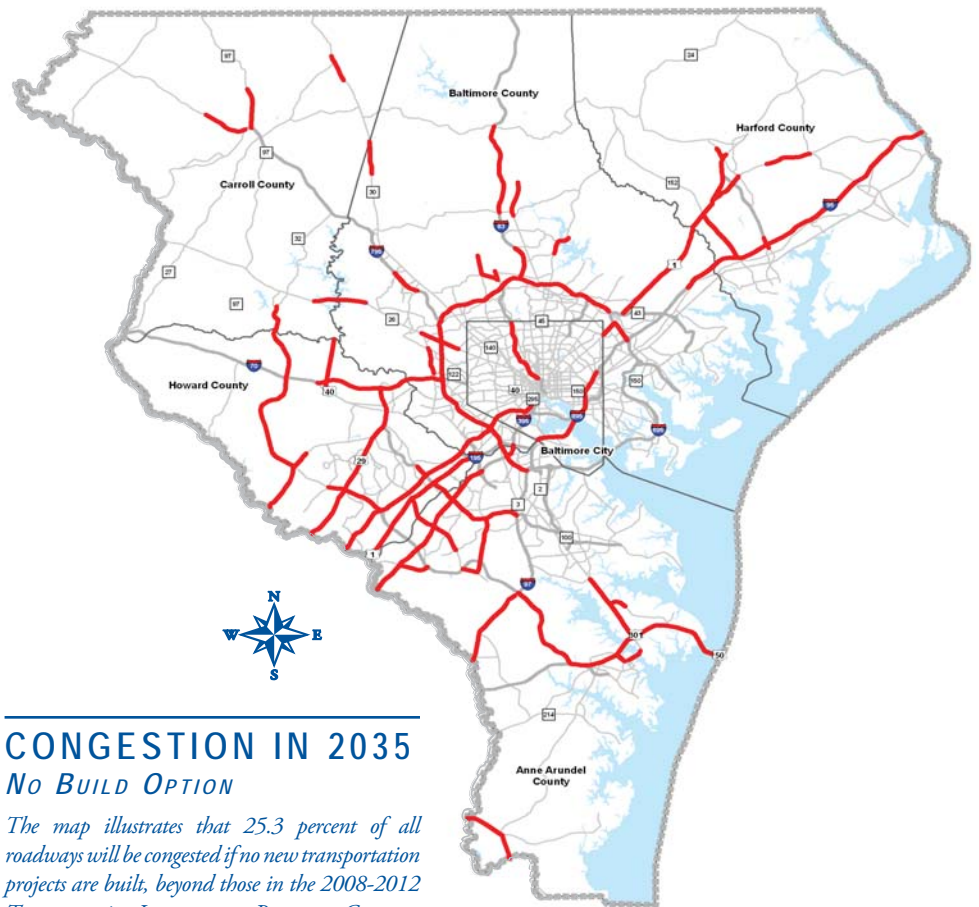
## SYSTEM PERFORMANCE

### MOBILITY

A multi-modal transportation system's performance can be measured in its effect on roadway congestion. If transportation choices, trip reduction programs and system management projects are effective, vehicle miles traveled (VMT) and congestion will be reduced. However, economic and population growth are occurring faster than capacity improvements can be made.

In 2005, drivers in the Baltimore region traveled 56.5 million miles every day. 11.2 percent of all roadways were congested for at least one hour of the day. Every day, drivers spent a total of 70,500 hours sitting in traffic.

By 2035, the daily VMT is projected to increase by 34 percent, to 75.5 million miles.



### CONGESTION IN 2035 No BUILD OPTION

*The map illustrates that 25.3 percent of all roadways will be congested if no new transportation projects are built, beyond those in the 2008-2012 Transportation Improvement Program. Compare this to the map on page 17.*

More travel will occur during peak travel times, and congestion will more than double.

Although Transportation Outlook 2035 will help mitigate projected congestion, congestion will still be nearly twice what it is today. We simply do not have the resources to build our way out of it.

### AIR QUALITY

At a minimum, the transportation system must not result in emissions

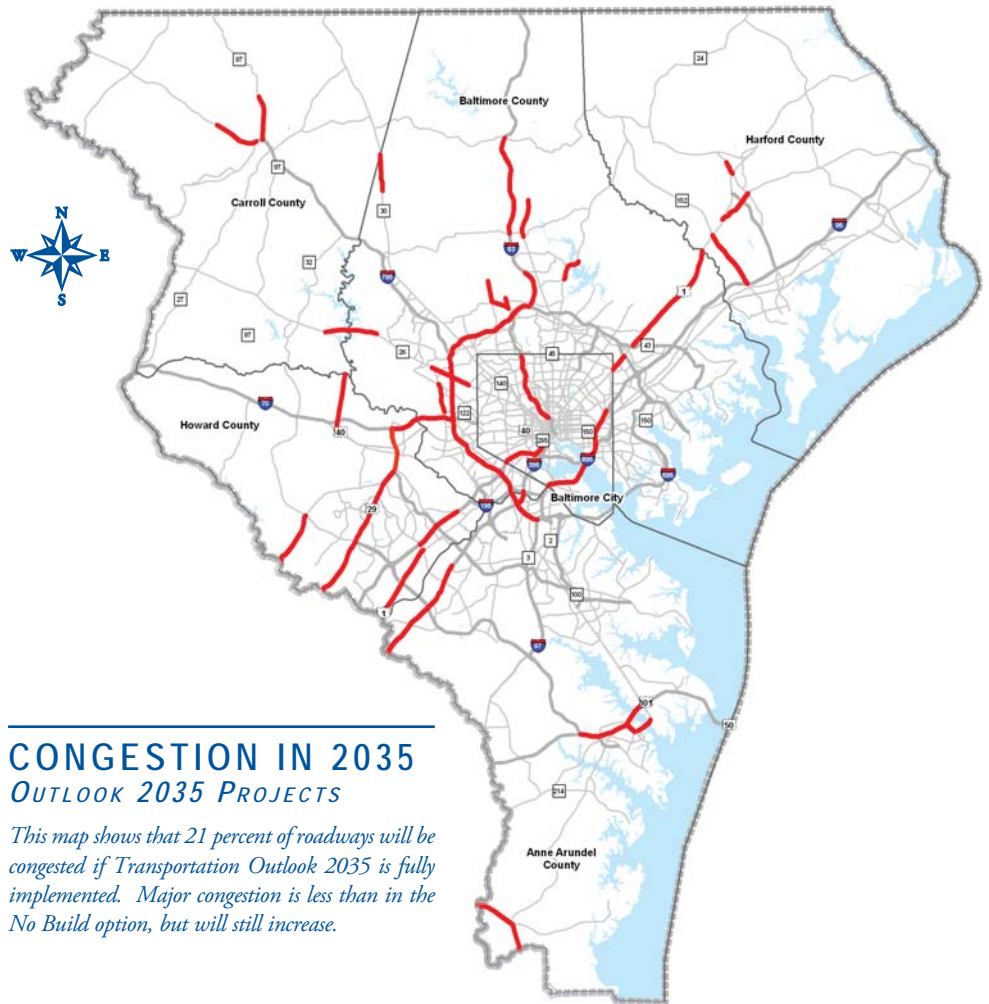
that would worsen air quality or delay the region from reaching timely attainment of federal standards. Because the Baltimore region is a nonattainment area for ground-level ozone and fine particulate matter, as well as a maintenance area for carbon monoxide, the plan was tested to ensure conformity with stated goals. Improvements in air quality may be observed through reductions in mobile

# Will Transportation Outlook 2035 Be Successful?

source emissions or maintenance of emissions despite increases in vehicle miles of travel.

In light of the importance of air quality, Transportation Outlook 2035 includes funding for transportation strategies to improve air quality, while simultaneously improving the efficiency of the system.

Three categories of projects to improve air quality are included: technologies, behavioral, and capital improvements. Bicycle and pedestrian projects continue to be an important element in Transportation Outlook 2035.



## NEXT STEPS

Based on public comments received throughout the two-month public comment period, the BRTB altered its allocation of available funds to commit more resources to transit.

The transportation investments and policies delineated in Transportation Outlook 2035 support the development of a balanced transportation system that promotes our region's diverse and vibrant economy and quality of life. The expenditure of \$8.7 billion supports highway and rail expansion and seeks to reduce auto dependency by investing in alternative transportation services and promoting energy efficient and safe travel options. Coupled with a vast array of existing regional and local transportation initiatives, Transportation Outlook 2035 serves as a catalyst to the continued development of a comprehensive regional mobility system.

