



TRANSPORTATION  
**OUTLOOK**

2035

Creating a Blueprint for the Baltimore Region's Future

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**2008 Amendment**

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**DRAFT**



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## BACKGROUND

This is an amendment to the Baltimore region's long-range transportation plan, *Transportation Outlook 2035: Creating a Blueprint for the Baltimore Region's Future*.

In response to public comment, this amendment will focus on ways to make the regional transit system more user-friendly and attractive to a broader segment of the region's population and workforce. This amendment will not affect currently funded projects in *Transportation Outlook 2035* which was adopted in November 2007. In early 2008, a revenue enhancement package was passed by the Maryland General Assembly. This revenue package was studied by the Maryland Department of Transportation (MDOT) and presented to the BRTB on May 27, 2008. As a result of discussion and public input, the BRTB will focus on additions to the program for this amendment from 2020 to 2035.

A key part of transportation planning is ensuring that a long-range plan provides a realistic projection of how the region will grow, how the transportation system must be maintained to support that growth and how the regional transportation system will be financed to keep this system moving to ensure that the Baltimore region maintains a strong and vibrant future. Keeping this in mind, the Baltimore Regional Transportation Board has chosen to amend the regional, long-range transportation plan to take advantage of the projected new revenue while maintaining the validity of *Transportation Outlook 2035*.

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## PROCESS FOR DEVELOPING THE PLAN AMENDMENT

The BRTB implemented a 3-phase process for amending *Transportation Outlook 2035*. The BRTB determined that the additional funds made available for capital expansion would be directed toward transit. Further, the BRTB outlined an area of focus for the revenue enhancements, transit and transit-related projects that could be implemented as early as the next five to seven years.

The first phase constituted an open call for projects with a public input period beginning on August 1, 2008; public input was also gathered at a Citizens Advisory Committee (CAC) meeting and several public meetings. The BRTB were able to identify over 330 project ideas from comments received at public meetings, from e-mail and from online public comment forms. During the amendment process, all federal requirements for transportation and air quality planning have been adhered to.

The second phase was based on project identification and technical evaluation (September – December 2008). During this time, BRTB members considered public input, identified projects for inclusion in the updated plan, and conducted appropriate technical evaluation.

The third phase is now underway with the release to the public of this amendment. This begins the public review and approval period (December 2008 – February 2009) of the preferred alternative that is included in this document. This public review and comment period includes a public meeting. The BRTB has set a goal for approving the amended plan in February 2009.

### Schedule:

Beginning of public comment period	December 16, 2008
Public Meeting 2 sessions at the offices of the BMC	January 15, 2009 3:30 to 5 p.m. & 5:30 to 7 p.m.
Close of public comment period	January 23, 2009
BRTB provided all public comment	January 27, 2009
BRTB scheduled to adopt the amendment	February 24, 2009

### Public Participation Program:

In order to determine what transit projects should be funded, the BRTB held a 30-day public input period to gather ideas and advice from the public about what kinds of transit projects they would like to see funded. The public input period began and ran from August 1 through September 2, and included several meetings and workshops; Tuesday, August 12, 3 - 5 and 6 - 8 p.m. and a third session on Tuesday, August 26 at

1 - 3 p.m. Public meetings and workshops were held at the Baltimore Metropolitan Council, 2700 Lighthouse Point East (2700 block of Boston Street), Suite 310, in the Canton area of Baltimore City.

Announcements were sent out in BMC Newsletters, the Afro American Newspaper, the Baltimore Sun, Sun Spot announcement on the Baltimore Sun web site and on the BMC web site.

Public participation was encouraged and comments were requested to be submitted during public workshops, by e-mail, by U.S. Mail, telephone, with an on-line comment form, in person and during the public input segment of the BRTB meetings on August 23, September 23, October 28, and November 25, 2008. During this public input period, over a hundred comments were submitted to the BRTB for consideration that resulted in over 330 project ideas.

On November 25<sup>th</sup>, the BRTB held a public work session from 1 to 3 p.m. to allow members of the public to comment on 10 scenarios that were under consideration. As a result of the input from both the public and the BRTB members, 2 additional scenarios were added. A BRTB workshop was held on December 8<sup>th</sup> at 9 a.m. to come to a consensus on the funding level and preferred alternative for the Plan Amendment.

The BRTB reviewed public input on the proposed scenarios for the Plan Amendment process. From there, a vote on the proposed funding level and the selection of a scenario that represents the preferred alternative took place. This meeting was open to the public. In response to public input and amid concerns about the downturn in the economy, the BRTB has determined that the additional \$340 million in funds for capital expansion that was initially proposed should be scaled back to \$225 million and that scenario 4A should be selected as the preferred scenario.

A public review period will begin on December 16, 2008 when the draft amended *Transportation Outlook 2035* will be released. On January 7, 2009, public input will be requested at the Citizens Advisory Committee meeting. On January 15, a public meeting will be held at the BMC at 3:30 to 7:00 p.m. The public comment period will close on January 23, 2009. The Technical Committee will vote on January 6 (9:30 a.m.) On February 24 the BRTB will vote at the BRTB meeting (9 a.m.).

## **REVENUE ENHANCEMENT**

In early 2007, Governor Martin O'Malley stated, and MDOT financial officers confirmed, that the MDOT faced a \$400-\$600 million annual shortfall in meeting a backlog of identified transportation needs. The shortfall would grow to \$40 billion during the life of the 20-year plan. To address this and other pressing revenue issues, in October 2007, the Governor convened a special session of the General Assembly. The session concluded with a package of revenue enhancements that was projected to add about \$450 million to transportation coffers annually. These enhancements

included sales and titling tax increases coupled with a computer services tax. However, during the 2008 regular session of the General Assembly, the computer tax was repealed along with a number of adjustments to the transportation budget, which thereby reduced the size of the projected increase to a total of \$380 million statewide annually. With this new revenue, the total for surface transportation funding for the Baltimore region from 2012 through 2035 was projected to grow by \$471 million. Since this figure is inflation-adjusted to current dollars, the BRTB staff converted it to Fiscal Year 2007 constant dollars for consistency with *Transportation Outlook 2035*. The conversion was achieved by applying the 2.4% discount rate established by MDOT to each annual increase. As a result, \$471 million (2007 current dollars) becomes the \$340 million constant dollars when adjusted for inflation over the period of time to 2035.

While this increase will not cover all of the needs earlier identified, this funding can be considered generous in an environment where the nationwide economic downturn is dissipating traditional transportation resources. MDOT has reported that vehicle miles of travel (VMT) is down below pre-World War II levels. Vehicle sales are below last year's level by two to three million units. These downturns have reduced state revenues from vehicle sales and titling taxes severely. While revenues continue to decline, expenses have risen dramatically. The cost of diesel fuel, asphalt and steel has climbed over 50%, raising the cost of preserving transportation infrastructure far beyond original estimates.

## **IMPACT OF A CHANGING ECONOMY ON *TRANSPORTATION OUTLOOK 2035***

On September 10, 2008, Transportation Secretary John D. Porcari announced that \$1.1 billion in state transportation projects would be deferred over the next six years to compensate for a projected revenue shortfall. The deferrals included new highway and transit projects that were added to the Consolidated Transportation Program earlier in 2008. Earlier in the year, those projects were added to the plan as a result of the revenue enhancement package passed by the General Assembly. In October 2008, the MTA announced proposed reductions to MARC train and Commuter Bus service as a result of budget decreases. As a result of these reductions, the BRTB met to discuss the potential impact the reduction in state transportation funds would have on the amendment to *Transportation Outlook 2035*. On December 8, 2008, the BRTB decided that the amendment should only fund projects in the later portion of the plan from 2020 to 2035 and as such, only fund projects totaling \$225 million (approximately \$16 million per year).

## PROJECT IDEAS FROM PUBLIC PARTICIPATION

In August 2008, the BRTB conducted a 30-day public input period to gather ideas on how the public felt the money should be used to fund transit or transit-related improvements. Comments were accepted in writing, online, and verbally at one of three public workshops. During this public input period, over 330 ideas were submitted to the BRTB for consideration. These ideas were categorized by project types; facilities, vehicles, management and operations (M&O) and Other. The underlying message expressed was that regional transit should capture a significantly higher share of regional trips, ensure safe and reliable service, and provide a more user-friendly seamless system for transit riders.

The largest subcategory that received 81 comments was New and Improved service, though it was determined that service improvements would not be addressed as part of this Plan amendment; this amendment will address capital improvements only. The Green Line transit project received (12) ideas such as “the Green Line is a vital artery” stated by the Greater Baltimore Committee. Although the Red Line transit project is in the current *Transportation Outlook 2035*, it received (9) ideas.

The next highest subcategories were ideas related to transit riders connecting or transferring between modes. Ideas submitted in these subcategories included transit shelter (8), park-and-ride lots (11), station – new/improved (23), and transit center (33). Many ideas supported the idea to “give priority to connectivity between parts of the transit system which will permit the public to make full, efficient use of the expanded transit option” submitted by the League of Women Voters. Relating to the idea of “full and efficient use of the expanded transit” were ideas relating to the M&O category which received 42 ideas. Subcategories of M&O received ideas in significant numbers including automatic vehicle location (AVL) (7), next vehicle signs/system and kiosks (12), trip planner/511 (8), signalization (8), safety and security at facilities (23) and safety and security on vehicles (3) and smart card (3). Enhancements to facilities ideas relating to accessibility for all were also prevalent such as “public transportation must be inclusive of all” as stated by Jeffrey Hossfeld including, the American Disabilities Act (ADA) ideas (5), pedestrian and bicycle improvements (13), and bicycle racks and lockers (10).

New and innovative ideas were submitted such as bus only shoulder lanes (3) to allow buses to use shoulder lanes on roadways to bypass congestion. The category for vehicles received (18) and Carroll Area Transit Service confirmed the need for additional buses for expansion of their system with an accompanying commitment for funding to operate the expanded system.

## PROJECT PRIORITIZATION PROCESS

These ideas and others were analyzed for consistency with the goals and objectives of *Transportation Outlook 2035*. The BRTB recognized the need to make transit a high

priority due to fluctuating fuel prices, concerns about air quality and the expressed interest by the public for improved access and expanded transportation options. A prioritization process was developed to evaluate transportation projects using measurable criteria that are related to transit related improvements. The criteria states that: the proposed transit project will improve accessibility by providing reliable and predictable traveler information to the public, connecting modes, improving access for low-income, minority, elderly, children/young people, zero-car households, providing access to school/university, employment centers, transit transfer centers, retail and tourism/special events and supporting BRAC related activities; the proposed transit project will improve mobility by reducing congestion, serving commuting patterns and providing transportation alternatives/options; the proposed transit project will improve operations by allowing for the monitoring of efficient movement of the transit system, providing real time information available to system operators and addressing safety and security of users; and the proposed transit project will promote sustainability by reducing emissions, increasing transit ridership, reducing congestion and creating a affordable transportation network.

## **SCENARIOS**

Scenarios were developed using themes recommended by the Citizens Advisory Committee (CAC). The project mix in the scenarios were developed as a result of the technical analysis by BMC staff of all projects ideas. Project ideas were consolidated into projects. The projects that received a high priority based on public and transit stakeholder comments that were not in a plan or program remained for further consideration. Close coordination occurred between the MTA and local transit service providers to confirm existing facility and project status. Initially five scenarios at the two funding levels, \$225 million and \$340 million, for a total of 10 scenarios, were developed with a mix of the projects listed below. During the public workshop on November 25, 2008, two additional scenarios were added to the mix. The scenarios have been developed based on input to address the perceived need to give priority to connectivity between parts of the transit system which will permit the public to make full, efficient use of the expanded transit option and to “make the regional transit system usable by and attractive to a broader segment of the region’s population and workforce” as stated by the CAC.

Potential Plan Amendment Scenarios

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	Scenario #1	Scenario #2	Scenario #3	Scenario #4	Scenario #4a	Scenario #5	Scenario #6
	Expansion, Connectivity and Station Enhancements	Expansion, Station Enhancements and System Information	Expansion, Connectivity and System Information	Expansion, Connectivity and Station Enhancements	Expansion, Connectivity and Station Enhancements	Expansion, Connectivity and Station Enhancements, System Information and Security	Expansion, System Information and Security
	\$225 Million (000)	\$340 Million (000)	\$225 Million (000)	\$225 Million (000)	\$225 Million (000)	\$225 Million (000)	\$225 Million (000)
(shown in thousands)							
1 Green Line Transit way - scope to be determined	\$225,000	\$225,000	\$125,000	\$125,000	\$125,000	\$125,000	\$130,000
2 Park-Ride spaces: \$10,000/pace for 2000 spaces/Anne Arundel, Baltimore, Harford, Howard counties)	\$20,000	\$25,000	\$15,000	\$24,400	\$19,400	\$24,400	\$30,000
3 Carroll County <sup>1</sup> - vehicles and amenities	\$500	\$500	\$500	\$500	\$500	\$500	\$500
<b>Intermodal Facilities</b>							
4a Intermodal Facilities <sup>2</sup> \$10 million/facility average, 3 of 4 (CMTDF, Columbia, Snowden Square, Parole)	\$30,000		\$30,000	\$10,000	\$10,000	\$20,000	\$20,000
4b Intermodal Facilities <sup>3</sup> \$20 million/facility average (such as Lexington Market or other Baltimore City location)	\$20,000		\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
4c MARC stations (not currently included in TO2035, i.e. Odenton or West Baltimore)	\$44,400	\$79,400	\$45,000	\$95,000	\$35,000	\$25,000	\$50,000
5 AVL (only)	\$10,000	\$10,000	\$10,000				
6 Dedicated bus lanes (in congested corridors such as I-835, MD 152, US 25, MD 2)			\$24,400	\$54,400	\$15,000	\$34,400	\$20,000
7 AVL 511, next vehicle information, kiosks						\$10,000	\$20,000
8 Security Equipment such as Cameras, Phones, Lighting at Transit Stations						\$10,000	\$75,000
<b>Totals</b>	\$225,000	\$340,000	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000

[1] Local jurisdiction committed to operational funding  
 [2] Represents a Transit Transfer Center  
 [3] Represents a Intermodal Transfer Center (potential public-private partnership)  
 (4) Scenario #4a was offered by Howard County at the Public Meeting on 11/25/08  
 (5) Scenario #5 was offered by Art Cohen at the Public Meeting on 11/25/08

**Green Line**

The Green Line Corridor Transit Project will put in place another segment of a fixed guideway system in the region; connect northeastern Baltimore to Johns Hopkins Medical Center, downtown Baltimore, the major growth area of Owings Mills, serve Morgan State University, provide convenient service to existing neighborhoods, provide connections to Baltimore’s existing Metro, Light Rail and MARC lines, provide access to the proposed East Baltimore Biotechnology Park, support Growth by serving established city neighborhoods, improve transportation accessibility to existing employment centers in downtown Baltimore, and provide a viable transit alternative to single occupancy vehicle (SOV) travel in the Baltimore region. The Green Line study area extends approximately 4 miles in a northeast direction within Baltimore City. The study area begins at the existing terminus of the Baltimore Metro line at Johns Hopkins Medical Center and extends north and east to Morgan State University campus. The Green Line would provide service connecting to Baltimore's existing transit system – Metro Subway, Light Rail and MARC lines. Enhanced access to the Johns Hopkins Hospital, the proposed East Baltimore Biotechnology Park near Madison Square, and support for established city neighborhoods would be provided.

The southern portion of the study area consists primarily of dense residential and institutional land use, while the northern portion consists primarily of medium-density residential areas and institutional uses.

Alternative modes being considered include rail and Bus Rapid Transit (BRT) such as Metro subway transportation extension, system management (TSM)/ transportation demand management (TDM) additional bus service routes such as Quick Bus,. The No-Build option is also being considered. The Green Line Project has a high level of complexity because the project study area is completely within an urban environment with a wide variance of costs per alternative facility type for this project.

**Park-and-Ride Lots – Baltimore Region**

There are approximately 25,000 park-and-ride lot spaces in the Baltimore region including parking spaces served by MARC, Metro, Light Rail, commuter and local bus transit and van and car pools. Local jurisdictions, together with State Highway Administration (SHA), help to identify ride sharing needs. All SHA lots have free parking, there are no special permits required and the lots are open 24/7 unless otherwise signed. Some of the MARC, Metro or Light Rail stations provide fee parking.

<b>CURRENT PARKING SPACES</b>	
Anne Arundel County	5,854
Baltimore City	3,503
Baltimore County	9,427
Carroll County	472
Harford County	1,521
Howard County	4,036

(2004)

### **Carroll County – Transit Vehicles and Amenities**

Carroll Area Transit System (CATS) is seeking funding for additional vehicles, signs, signposts and shelters to support additional shuttle routes to the existing rural system. CATS provides transportation services for Carroll County. This organization has been providing these services for the County since 1974. The CATS program currently operates approximately 35 vehicles. CATS is seeking funding of \$80,000 per year for 7 years to add routes in the more rural areas of the county that will feed into existing shuttle routes in the more populated and more heavily traveled areas. Carroll Area Transit Service confirmed the need for additional buses for expansion of their system with an accompanying commitment for funding to operate the expanded system.

### **Dedicated Bus Lanes**

A bus lane is a dedicated lane for buses either at all times or at certain specified periods as required to overcome congestion along roads. The length of a bus lane can vary between short sections on the approach to intersections, or longer continuous sections between intersections that provide a dedicated lane to provide relief to variable traffic congestion. Dedicated bus lanes are clearly marked to ensure motorists understand the designation. Bus lanes are normally created when the road in question is both likely to be congested as well as routinely travelled by buses.

Only specified vehicles (buses, emergency service vehicles, cyclists) may be allowed to enter a bus lane. Other vehicles may receive a violation if they enter a bus lane. It is illegal for motorists other than buses to drive or stop in a bus lane during its operational hours.

Road signs clearly outline the times that the bus lane is operational and which vehicles are permitted to use it within those times. A dedicated bus lane might be designated with a white stripe separating it from the adjacent lane. Typically a dedicated bus lane also has the word "bus" painted on it at regular intervals. These markings, while helpful, do not prevent buses from having to slow down when other vehicles block their way at street crossings. Buses move much faster (potentially twice as fast on the corridors, 25% faster city-wide) and more regularly because congested traffic is bypassed. Bus lanes contribute to reduced congestion, because buses avoid regular traffic lanes and slowing or stopping cars when they pull back into traffic after picking up passengers.

### **Intermodal Facilities/ MARC Stations/Transit Oriented Development (TOD)**

Intermodal transit transfer centers serve as multi-modal nodes connecting rail and various regional, express, circulator and local bus services with each other and providing vehicular, bicycle and pedestrian access to these services. Transit centers may be designed specifically to facilitate transferring between Metro, Light Rail, MARC, bus routes, water transportation and between bus and other travel modes. The location of the Intermodal Transit Transfer Centers will be determined after further study, but will potentially be located at high usage transfer areas and adjacent to or within major activity centers. Transit centers may improve transit rider experience through good directional and informational signing and information. Facilities may include a building, bus bays, rail station waiting area, kiosks, bike lockers, safety and security equipment

and/or parking, and next vehicle information. Trip planning and way finding systems including accommodations for people with hearing, sight, or mobility limitations may be provided to assist riders connecting between transportation modes. Two types of intermodal transit transfer centers were identified; a larger center that will serve as a transfer center between multiple mode to serve an activity center near Baltimore City transfer points such as the Lexington Market. A second type of transfer facility would be a smaller facility located in high capacity transfer center such as Parole, Columbia, and Central Maryland Transit Operations Facility (CMTOF).

MTA's Maryland Rail Commuter (MARC) station improvements – Station improvements may include parking, platform, building and other improvements. In the Baltimore region, MARC trains operate in two existing rail corridors totaling 77 miles, with stations in all jurisdictions except Carroll County. The Penn Line runs between Perryville in Cecil County and Union Station in Washington and stops at eight stations in the region; Aberdeen, Edgewood, Martin Airport, Baltimore Penn Station, Halethorpe, and Odenton. The Camden Line runs from Camden Station in Baltimore City to Union Station in Washington, and stops at six stations in the region; Baltimore Camden Station, St Denis, Dorsey, Jessup, Savage and Laurel.

TOD is compact, mixed-use development near transit facilities that provide high-quality walking environments. TOD leverages transit infrastructure to promote economic development and smart growth, increasing location efficiency where people can walk, bike and take transit. In addition, TOD boosts transit ridership and reduces automobile congestion, providing value for both the public and private sectors, while creating a sense of community and place.<sup>1</sup> Both Intermodal transit transfer centers and MARC station improvements should have TOD design elements. This amendment specifies that design of intermodal facilities and MARC station improvements should fully support TOD.

NOTE: *Transportation Outlook 2035* lists a new MARC station as “East Baltimore” that will now be renamed as the “Bayview” MARC station.

### **Transportation Security and Automatic Vehicle Location (AVL)**

MTA Security - Passenger stations on the Maryland Transit Administration's rail lines have the very latest in video surveillance technology to enhance security and public safety by early 2008. Under a contract partially funded by the U.S. Department of Homeland Security, advanced video monitoring equipment is being installed at selected stations of the Baltimore Metro Subway, the Baltimore Light Rail system, and the MARC train service. The remotely controlled cameras are focused on rail station platforms, surrounding areas, and valuable equipment. The system feeds a stream of video images to a central monitoring facility. The new system uses “video analytics” to scan the incoming images and detect unusual movement or suspicious activity. The video analytics software is designed to recognize events such as intrusion or anyone leaving behind a suspicious package. The system will save images captured for a period of

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<sup>1</sup> FTA Transit Oriented Development & Joint Development  
[www.fta.dot.gov/planning/programs/planning\\_environment\\_6932.html](http://www.fta.dot.gov/planning/programs/planning_environment_6932.html)

time for future analysis. The surveillance system includes multi-screen workstations that allow operators to view a map of the MTA system and navigate through multiple levels at each station to select a camera for viewing on a main screen. From the main view, operators can select additional camera views that allow them to monitor the details of the surrounding area. This capability includes the state's ports, airports, train stations, subways, and rail lines, with the goal of making them fully hardened against attack with permanent physical countermeasures such as CCTV, lighting and fencing. The capability also includes regular and randomly assigned heightened attention from covert and overt patrols by local and state law enforcement.

Automatic Vehicle Location (AVL) Systems - provide a dispatch center capable to monitor the location of all vehicles continuously in real time. AVL is usually integrated with digital communications and Geographic Information System (GIS) mapping systems to streamline instructions from the dispatcher who is able to view vehicle itineraries and locations graphically. Each driver has a Mobile Data Terminal (MDT) in the vehicle that allows extensive planning information to be collected at a lower cost than by manual methods (i.e., schedule adherence, location-based passenger counts, and location-based fare collection information). MTA currently has AVL on its fleet and utilizes and next vehicle arrival system on the Quick Bus 40 routes. Next Bus exists on Howard Transit Vehicles.

## **PREFERRED ALTERNATIVE**

The preferred scenario, 4A includes the following projects at the proposed funding level of \$225 million. The mix of projects includes:

- Green Line Transit Preliminary Engineering
- Park-and-Ride spaces - averaging \$10,000/space for 2,000 spaces in Anne Arundel, Baltimore, Harford, and Howard counties
- Carroll County – transit vehicles and amenities
- Intermodal Facilities /MARC stations/ Transit Oriented Development (TOD) –
  - a. \$10 million/facility average, 3 of 4 (smaller type facilities such as bus to bus: Central Maryland Transit Operations Facility (CMTOF), Columbia, Snowden Square, Parole)
  - b. \$20 million/facility average (larger type facilities such as rail to rail or bus: Lexington Market, or other Baltimore City location)
  - c. MARC station(s) not currently included in *TO2035*, i.e. Odenton, West Baltimore, or East Baltimore Development Initiative (EBDI))
- Dedicated bus lanes - in congested corridors such as I-695, MD 152, US 29, MD 2

## FINANCIAL PLAN

The additional funds made available for capital expansion from the state revenue enhancement package will be directed entirely toward transit. Originally, revenue projections for surface transportation funding for the Baltimore region from 2012 through 2035 was projected to grow by \$471 million in (2007 dollars). Since this MDOT figure is inflation adjusted to current dollars, it was converted to Fiscal Year 2007 constant dollars for consistency with *Transportation Outlook 2035*. The conversion was achieved applying the 2.4% discount rate established by MDOT to each annual increase. As a result, \$471 million (2007 current dollars) becomes the \$340 million constant dollars when adjusted for inflation over the life of the plan. Due to the recent economic downturn, it has been proposed that the Baltimore region should take a conservative approach to the Plan amendment and delay the projected revenue increase until 2020. The proposed amendment will assume approximately \$16 million per year for the years 2020 to 2035. The projected revenue for the amendment is \$225 million which is \$16 million per year for the life of the plan (based on the annual average assumed from the original projection adjusted for inflation). The preferred scenario for \$225 million includes:

	<i>(shown in thousands)</i>	<i>(\$000)</i>
Green Line Transit Preliminary Engineering		\$125,000
Park-and-Ride spaces		\$19,400
Carroll County – vehicles and amenities		\$600
TOD oriented Intermodal Facilities and MARC Stations		
smaller intermodal facilities		\$10,000
larger intermodal facilities		\$20,000
MARC station(s)		\$35,000
Dedicated bus lanes		\$15,000
	<b>Total</b>	<b>\$225,000</b>

**Green Line Project** – The Green Line Transit project preliminary engineering project phase will be added to the plan for \$125 million. The current projected cost estimate range for construction of this project is \$302 million to \$1.6 billion (2006). The modes that may be considered as alternatives for this project vary greatly from low cost for transportation system management, \$67 million per mile for bus rapid transit (BRT), \$127 million and mile for light rail transit to \$350 million a mile for Metro (heavy rail transit) in 2006 dollars average per mile.

**Park-and-Ride Spaces** – cost to build parking spaces is estimated to be approximately \$10,000 per space. Costs could vary from \$8,000 to \$20,000 per space depending on whether or not they are additional spaces in an existing lot or construction of a new facility. Cost per space may also be affected by location.

**Carroll County – Transit Vehicles and Amenities** - CATS is seeking funding of \$80,000 per year for 7 years to add routes in the more rural areas of the County that will feed into existing shuttle routes in the more populated and more heavily traveled areas.

**Intermodal Facilities/ MARC Stations/Transit Oriented Development (TOD)** - Public private partnership for a large multi-modal intermodal transit transfer facility may be pursued as part of downtown redevelopment. The MARC Growth and Investment Plan classify station priorities. TOD will not be funded as part of this amendment, but this amendment specifies that design of intermodal facilities and MARC station improvements should fully support TOD.

**Dedicated Bus Lanes** - will be pursued on congested roadways with existing shoulders that are served by transit. Costs will vary based on location for an estimated five or more miles of bus lanes.

## AIR QUALITY

The Baltimore region is a federally designated “nonattainment” area for ground-level ozone and fine particulate matter and is in a maintenance stage for carbon monoxide. Before plans and programs are adopted, a conformity determination to regional air quality goals is required. A technical process estimates the mobile source emissions associated with projected travel demand considering the latest planning assumptions and the transportation network supply. The estimated mobile emissions are compared to the mobile source emission budgets contained in the State Implementation Plan (SIP) for the Baltimore region. The mobile source budgets contained in the SIP document, prepared by the Maryland Department of the Environment (MDE), are established through technical analysis with the goal of attaining and maintaining federal air quality standards.

Staff initially reviewed the components of the proposed long range plan amendment to determine whether they are subject to the federal transportation conformity rule. Projects characterized as “exempt” (§93.126 and §93.127) may proceed towards implementation without a conformity determination, due to their neutral or *de minimis* emissions impacts.

The remaining components of the proposed plan amendment (those that are “non-exempt”) require a regional conformity determination. This ensures that the implementation of the projects in the amended *Transportation Outlook 2035* does not worsen the region’s air quality or delay the timely attainment of national ambient air quality standards. Additional scrutiny of non-exempt projects was conducted to determine the technical analysis required to assess the impact on mobile emissions. It was determined that the shuttle routes for the Carroll Area Transit System would be reflected in the regional emissions analysis.

The Interagency Consultation Group (ICG) consisting of representation from the MPO, Departments of Transportation and Environment reviewed the initial staff recommendation for conformity determination of each component of the plan amendment. The ICG then provided direction for how to move forward with the conformity determination, and regional emissions analysis.

With conformity determination procedures identified for the plan amendment components, staff conducted a regional emission analysis of all projects contained in the amended long range transportation plan. The mobile source emissions associated with the amended long range plan were compared to the SIP mobile source emission budgets determining conformity to air quality improvement objectives delineated in the state air quality plan.

MDE will be asked to confirm the MPO staff technical analysis before the findings are finally shared with the ICG. The ICG is expected to confirm the conformity determination and make a recommendation for approval to the MPO policy board.