

**BALTIMORE REGION  
FY 2016-2017  
UNIFIED PLANNING WORK PROGRAM  
FOR TRANSPORTATION PLANNING**

**MAY 26, 2015**

**PREPARED FOR THE  
BALTIMORE REGIONAL TRANSPORTATION BOARD**

**The designated Metropolitan Planning Organization for  
the Baltimore Region**



The BRTB is staffed by the:  
BALTIMORE METROPOLITAN COUNCIL

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The U.S. Department of Transportation, (the Federal Highway Administration, and the Federal Transit Administration) and the Maryland Department of Transportation contributed funding towards the preparation of the FY 2016-2017 Unified Planning Work Program.

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# **BALTIMORE REGION FY 2016-2017 UNIFIED PLANNING WORK PROGRAM FOR TRANSPORTATION PLANNING**

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**The Honorable Steve Schuh  
Chairman  
Baltimore Regional Transportation Board**

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Director Transportation Planning  
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**April 28, 2015**

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**Produced under the auspices of the Baltimore Regional Transportation Board,  
the Metropolitan Planning Organization for the Baltimore Region**

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\* Denotes non-voting members

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## INTRODUCTION

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### **UNIFIED PLANNING WORK PROGRAM DEVELOPMENT PROCESS**

The Fiscal Year (FY) 2016-2017 Unified Planning Work Program (UPWP) outlines the planning activities to be performed by all state, regional, and local participants involved in the Baltimore metropolitan transportation planning process over the next two fiscal years (July 1, 2015 through June 30, 2017). It defines the regionally agreed upon planning priorities and the roles and responsibilities of the various participants in this process.

The work program reflects a careful consideration of critical transportation issues currently facing the region, as well as the analytical capabilities needed to address them. The UPWP is required as a basis and condition for all federal funding assistance for transportation planning by the joint planning regulations of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

It is through the FY 2016-2017 UPWP, as well as previous UPWP initiatives, that the Baltimore Regional Transportation Board (BRTB), acting as the designated metropolitan planning organization (MPO), will address and support the short-term and long-range transportation planning priorities of the Baltimore metropolitan area. In November 2011, the BRTB approved *Plan It 2035*, the current long-range regional transportation plan that guides the region's short-term and long-term multimodal investments. The BRTB is now focusing on implementation of that Plan and development of the next regional long range plan, due to be approved by the BRTB in November 2015. This UPWP includes studies and programs to that end.

The UPWP is funded through an 80 percent planning grant provided by FHWA and FTA and a 20 percent match provided by Maryland Department of Transportation (MDOT) and the local governments of the Baltimore metropolitan planning area. Federal funding sources include Title 1, Section 112 metropolitan planning funds (Federal Highway Act (PL-93-87)) and Title III, Section 5303 metropolitan planning funds. The total funding proposed for the FY 2016 transportation planning activities for the Baltimore region is \$6,586,080. For FY 2017, the total proposed funding is \$5,793,080.

Prior to this version, the UPWP had been developed annually beginning in December, with approval in March or April. This version is the first that will cover a two-year period. Developing this UPWP has relied on the continued cooperation among State (specifically transportation, air quality and planning agencies), local and regional entities. The FY 2016-2017 UPWP was prepared with the involvement of these organizations, acting through the BRTB and its subcommittee structure.

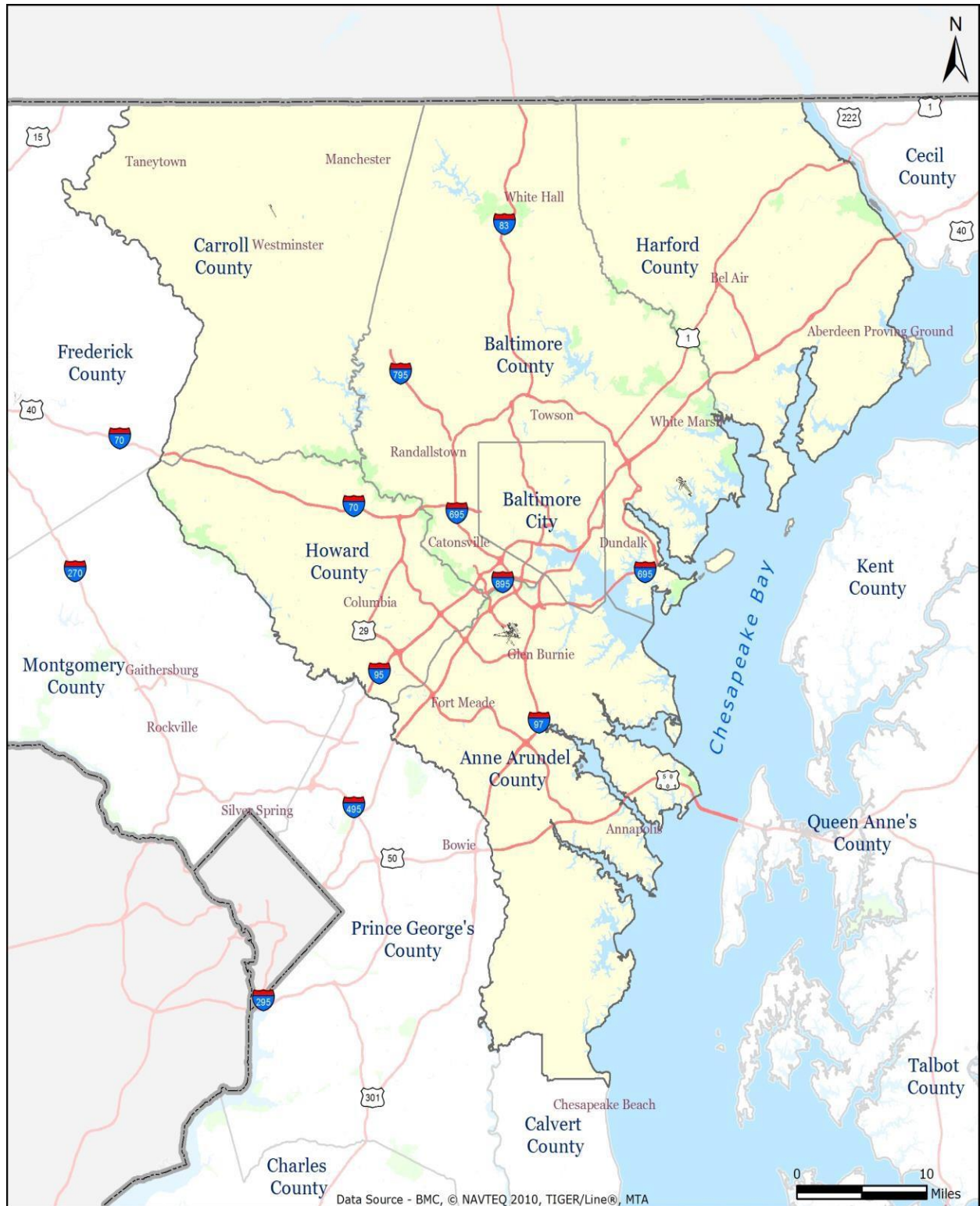
The work tasks delineated in the UPWP are performed primarily by staff working in the Transportation Planning Division of the Baltimore Metropolitan Council (BMC), with limited support provided by other functioning units within the BMC. Specific elements of the UPWP, at times, are contracted out to consultants in accordance with the work program project descriptions and the budget. Some UPWP funds are also "passed through" to local jurisdiction members of the BRTB for specific transportation planning studies that support the regional transportation planning process.

### **METROPOLITAN PLANNING AREA**

At a minimum, a Metropolitan Planning Area (MPA) must cover the urbanized area and contiguous geographic areas likely to become urbanized within the next 20 years. The Baltimore MPA consists of Baltimore City as well as Anne Arundel, Baltimore, Carroll, Harford, Howard and portions of Queen Anne's counties (see **Figure 1** for the geographic location of each participating local jurisdiction).

FIGURE 1

THE BALTIMORE REGION



The planning area is part of the 2010 U.S. Census Bureau's Baltimore-Columbia-Towson Metropolitan Statistical Area (MSA), containing the Baltimore Urbanized Area, the Aberdeen-Havre De Grace-Bel Air Urbanized Area, the Westminster Urbanized area, and a portion of Queen Anne's County. Also included within the Baltimore region are thirteen smaller incorporated municipalities. The renamed Baltimore-Towson metropolitan area (excluding Queen Anne's County) has also been designated by the Environmental Protection Agency (EPA) as a "moderate" non-attainment area for the 8- hour ozone standard and a maintenance area for fine particulate matter (PM<sub>2.5</sub>). The entire non- attainment area is in the northern portion of the 2010 U.S. Census Bureau designated Washington-Baltimore-Northern Virginia, DC-MD-VA-WV Combined Statistical Area (CSA).

#### **PUBLIC INPUT INTO THE UPWP**

In keeping with the proactive public involvement spirit of the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141) (MAP-21), the FY 2016-2017 UPWP is being released to the public for a 30-day review and comment opportunity. Full public access, disclosure, and modification based on the reasonableness of the public response should expand the comprehensiveness and user- friendliness of the final FY 2016-2017 UPWP. Information on the public review process (including outreach) is shown in Appendix C of this document.

#### **METROPOLITAN TRANSPORTATION PLANNING**

The most recent federal transportation legislative program, MAP-21, was signed into law by President Obama on July 6, 2012. MAP-21 preserves the commitment to the metropolitan transportation planning process established in previous federal initiatives. On February 14, 2007, the U.S. Department of Transportation (U.S. DOT) issued the latest regulations regarding metropolitan planning (based upon the previous legislation-Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, or SAFETEA-LU), specifically outlining the planning requirements associated with the metropolitan planning process, including the Transportation Improvement Program and the Long- Range Transportation Plan. Federal agencies are expected to update these regulations to reflect key changes in MAP-21 from previous transportation legislation that include an increased focus on performance measures and relating these measures to prioritization of projects in key MPO documents.

#### **MPO Roles and Responsibilities**

The BRTB is the federally designated MPO acting as the regional transportation planning and policy making body for the Baltimore region. In this capacity, the BRTB is directly responsible for conducting the continuing, cooperative and comprehensive (3-C) transportation planning process for the Baltimore metropolitan region in accordance with the metropolitan planning requirements of Section 134 (Title 23 U.S.C.) of the Federal Highway Act of 1962 and Section 8 of the Federal Transit Act. The BRTB provides overall program management of the UPWP work tasks and budget as well as policy direction and oversight in the development of the federally mandated Long-Range Transportation Plan, the Transportation Improvement Program and the transportation element of the State Air Quality Implementation Plan.

The BRTB is an 11-member policy board consisting of the cities of Annapolis and Baltimore; the counties of Anne Arundel, Baltimore, Carroll, Harford, and Howard; and MDOT, the Maryland Department of the Environment (MDE), the Maryland Department of Planning (MDP), and the Maryland Transit Administration

(MTA). Voting rights are extended to all members with the exception of the Maryland Department of the Environment, and the Maryland Department of Planning. These agencies serve the BRTB in an advisory capacity. The Maryland Transit Administration currently serves the role of “representative of public transportation” on the Board based upon a vote of the public transit providers in the region. Representatives from the local jurisdictions and agencies have been designated and empowered by their respective lead elected official or department secretary to integrate locally oriented policies and needs into a regionally based agenda.

In the Baltimore metropolitan area, the roles and responsibilities of the BRTB, state and local transportation operators and transportation-related state agencies for cooperatively conducting transportation planning and programming have been established over several years. **Table 1** outlines the various parties responsible for the primary planning and programming activities in the Baltimore region.

A network of committees and subcommittees was formulated to focus on specific technical and policy areas at the direction of the BRTB (**Figure 2**). Coordination of this diversified transportation planning structure, a direct responsibility of the BRTB, serves to ensure that transportation planning is integrated with the region’s efforts to address economic and environmental challenges, land development and quality of life issues such as public health. The BRTB establishes a Budget Subcommittee annually to review projects and work tasks included in the UPWP to ensure regional significance and quality control.

The MDOT has a standing Memorandum of Understanding (MOU) with the BMC that delineates responsibilities in support of the regional transportation planning process. This agreement, initiated in 1992 with the re-designation of the BRTB and reauthorized in 2004, stipulates that MDOT will apply for federal transportation planning grants from both FHWA and FTA to support the UPWP as well as provide a portion of the non-federal matching funds required. In addition, MDOT formally represents all State-affiliated transportation modes and authorities on the BRTB.

As the leading air quality agency, MDE is an active member in the transportation planning process. Providing technical input and direction, MDE has assumed an advocacy role in the development of transportation system improvements that enhance the region’s efforts to reach attainment by the prescribed timelines. The Maryland Department of Planning provides a direct linkage between transportation planning decisions and statewide growth management and land planning strategies.

MTA operates a comprehensive transit system throughout the Baltimore and Washington metropolitan areas. The MTA works closely with the BRTB on planning new transit lines in the Baltimore region.

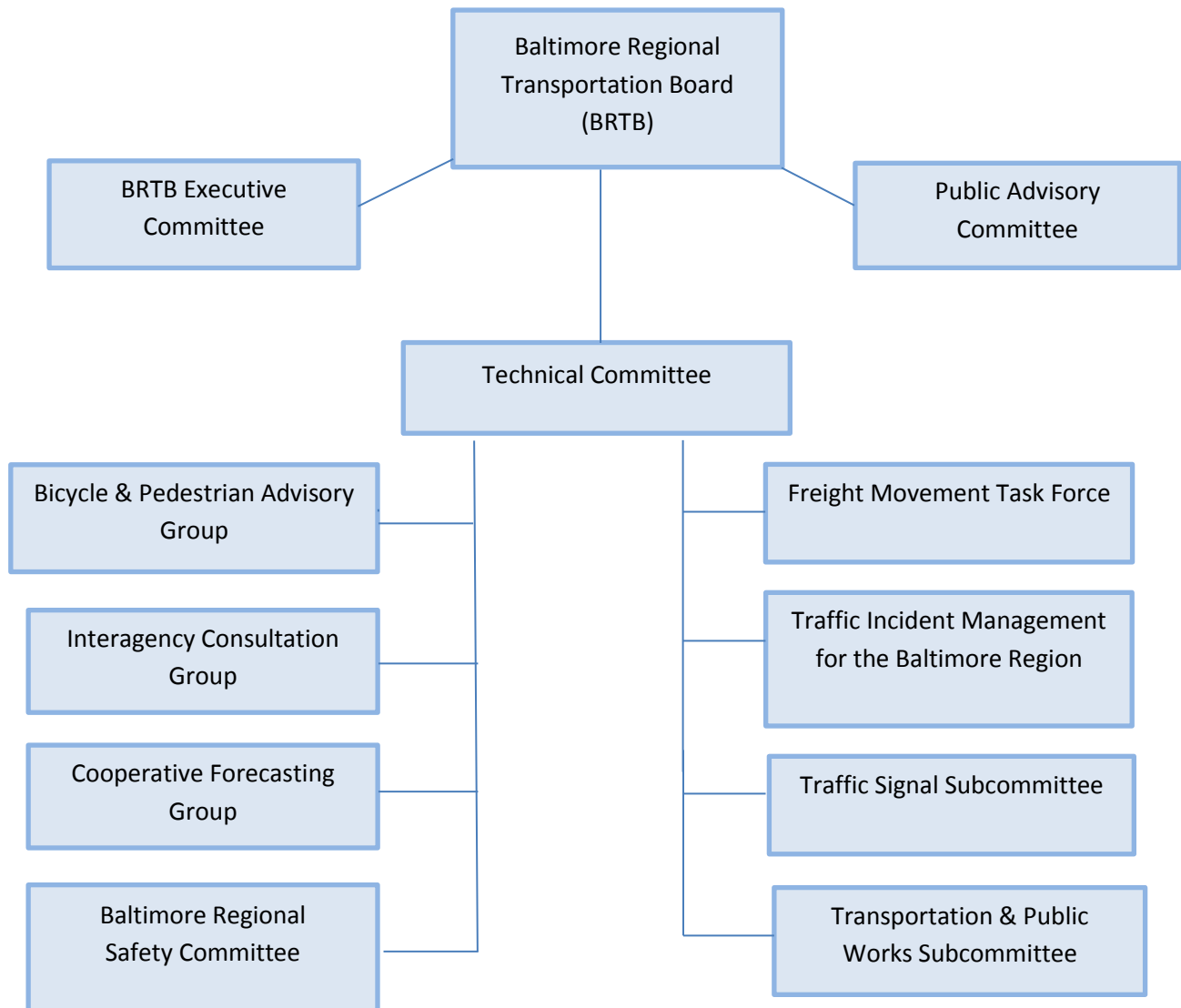
**TABLE 1**

**ROLES AND RESPONSIBILITIES FOR TRANSPORTATION PLANNING AND PROGRAMMING**

<b>Planning Responsibility</b>	<b>Memorandum of Understanding (MOU)</b>	<b>Date Executed</b>	<b>Status</b>	<b>Changes Planned</b>
UPWP Development	Formal MOU establishing the BRTB as Baltimore MPO and develop an annual UPWP consistent with the 3-C planning process.	7/1/2004	In Effect	No
UPWP Development	Formal Memorandum of Agreement ((MOA) between MDOT and BMC outlining managerial oversight of the UPWP.	7/1/2004	In Effect	No
Transportation Conformity and State Implementation Plan Development	Formal procedures of Interagency Consultation Process	1996	In Effect	No
Public Transit Operators and MPO Process	Formal MOA between BRTB, MDOT and MTA defining roles and responsibilities of public transit operator and State Department of Transportation in the Baltimore regional planning process.	2/26/2008	In Effect	No
Financial Plan for Long-range Transportation Plan and Transportation Improvement Program	Formal MOA between BRTB, MDOT and MTA defining roles and responsibilities of public transit operator and State Department of Transportation in the Baltimore regional planning process.	2/26/2008	In Effect	No
Corridor Planning Studies	Formal MOA between BRTB, MDOT and MTA defining roles and responsibilities of public transit operator and State Department of Transportation in the Baltimore regional planning process.	2/26/2008	In Effect	No
MPO Certification	Formal MOA between BRTB, MDOT and MTA defining roles and responsibilities of public transit operator and State Department of Transportation in the Baltimore regional planning process.	2/26/2008	In Effect	No

FIGURE 2

**BALTIMORE REGIONAL TRANSPORTATION BOARD  
COMMITTEE STRUCTURE**



### **Federal Certification Review Process**

At least every four years, the FTA and FHWA must jointly certify that the transportation planning process in urbanized areas with a population greater than 200,000 (i.e. Transportation Management Area (TMA)), is being conducted in accordance with the joint planning requirements. The primary purpose of a certification review is to formalize the continuing oversight and day-to-day evaluation of the planning process. The certification review process ensures that the planning requirements under Title 23 are being satisfactorily implemented. In a broader sense, the certification review process is a valuable opportunity to provide advice and guidance to a TMA, for enhancing the planning process and improving the quality of transportation investment decisions.

While the FHWA and FTA interact with TMA planning officials, state DOTs, transit operators, etc. on a routine basis—reviewing and approving planning products, providing technical assistance, and promoting good practice—the formal assessment during a certification review provides an objective view of the TMA transportation planning process. It can serve as a catalyst to improve the effectiveness and efficiency of the planning process, and help ensure that the major transportation planning issues facing a metropolitan area are being addressed.

### **2012 Federal Certification Review**

The most recent certification review took place from June 26-28, 2012. In general, the federal team determined that the BRTB continues to conduct a “3-C” transportation planning process that satisfies the federal provisions governing metropolitan planning.

The review team highlighted several noteworthy practices in the BRTB planning process (e.g., development of a performance-based long-range transportation plan, definition and documentation of the regional Congestion Management Process (CMP), linkage of transportation planning with the National Environmental Policy Act (NEPA) requirements, incorporation of freight planning into the transportation planning process, etc.).

The team also identified areas in need of improvement. These include:

1. Establishing performance targets
2. Including work completed and percentage of federal funds spent in biannual UPWP submittals
3. Improving the public involvement process (specifically, better explanation of projects’ linkage to the state Consolidated Transportation Program (CTP), increased engagement with low-income and minority residents, and better incorporation of social media into the decision making process)
4. Improving the Title VI ( Under the Civil Rights Act of 1964, no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the of, or be subjected to discrimination under any program or activity receiving Federal financial assistance) program and documentation
5. Adopting state DBE program methodology
6. Increasing participation of locally operated transit system agencies in regional planning

7. Monitoring the effectiveness of CMP strategies
8. Working with the MDE to develop mobile emission budgets and emission reduction strategies in anticipation of potential future 8-hour ozone or PM<sub>2.5</sub> standards. The BRTB, with the support of the BMC staff, has begun to address the certification team's recommendations.

#### **Additional Planning Studies**

See **Appendix D** of this document for more information on additional planning studies that are supported by state or local funding only and that provide valuable information in support of the core regional planning efforts.

#### **UPWP Priorities: Regional Transportation Goals / Performance-Based Approach**

The tasks delineated in the UPWP are linked to the region's transportation goals, as adopted by the BRTB in developing the next plan, *Maximize2040: A Performance-Based Transportation Plan*. The region's transportation goals as adopted for *Maximize2040* are:

1. **Improve System Safety** – Make conditions safer for pedestrians, bicyclists, transit riders and operators, and motorists.
2. **Improve and Maintain Existing Infrastructure** – Improve the conditions of existing transportation facilities; systematically maintain and replace transportation assets as needed.
3. **Improve Accessibility** – Help people of all ages and abilities to reach specific destinations.
4. **Increase Mobility** – Help people and freight to move reliably and efficiently.
5. **Conserve and Enhance the Environment** – Pass on to future generations the healthiest natural and human environments possible.
6. **Improve Transportation System Security** – Provide a secure traveling environment for everyone; improve the region's ability to respond to natural and man-made disasters.
7. **Promote Prosperity and Economic Opportunity** – Support the revitalization of communities, the development of activity centers, and the movement of goods and services.
8. **Foster Participation and Cooperation among Stakeholders** – Enable all interested and affected parties to participate and cooperate to find workable solutions.
9. **Promote Informed Decision Making** – Ensure that adopted transportation policies and performance measures guide the regional decision making process.

These goals and their supporting strategies are means by which the Baltimore region can make sound, responsible investments in transportation systems. They also provide the framework through which the region can make progress toward improving accessibility and mobility for people and goods, in as safe and secure and environmentally sustainable a manner as possible, to advance the overall prosperity of the Baltimore region and the opportunities available to its communities and citizens.

**Table 2** below shows how the UPWP tasks relate to these regional transportation goals:

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**TABLE 2**

<b>UPWP Tasks</b>	<b>Regional Goals (✓ = primary association; ▪ = peripheral association)</b>								
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
UPWP Management								▪	✓
Public Participation and Community Outreach	▪	▪	▪	▪	▪	▪	▪	✓	✓
Professional Consultant Services (this depends on scope)									
Long-Range Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓
Congestion Management Process				✓	▪			▪	✓
Operations Planning	▪			✓		✓		▪	✓
Safety Planning and Analysis	✓							▪	✓
Bicycle and Pedestrian Planning	✓	▪	✓		▪			▪	✓
Freight Mobility Planning	▪	▪		✓		▪	✓	▪	✓
Transit Planning & Ladders of Opportunity			✓				▪	✓	✓
Human Service Transportation Coordination	▪	▪	✓	▪		▪		✓	✓
Emergency Preparedness Planning				▪		✓			✓
Transportation Equity Planning			✓				▪	✓	✓
Development Monitoring					▪		✓		✓
Monitoring System Performance and Reliability	▪	▪	▪	✓	▪	▪	▪		✓
Databases and Travel Surveys				▪			✓		✓
GIS Activities	▪	▪	▪	▪	▪	▪	▪	▪	✓
Demographic and Socioeconomic Forecasting				▪			✓	✓	✓
Analysis of Regional Data and Trends	✓		✓	✓	▪	▪	▪		✓
Technical Analysis in Support of State Initiatives			✓	✓				▪	✓
Current Simulation Tools			✓	✓			▪		✓
Expanding the Region's Toolset			✓	✓			▪		✓
Transportation Improvement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓
Environmental Planning					✓			▪	✓
Air Quality Conformity Analysis				▪	✓			▪	✓
Harford Co: MD 924 Corridor Study	▪	▪	▪	✓			▪		✓
Howard Co: Bus Rapid Transit Development			▪	✓	▪				✓
Regional: Regional Bicycle Map	▪	▪	✓	▪	▪			✓	✓

### **U.S. DOT PLANNING EMPHASIS AREAS**

The FHWA and FTA have jointly developed planning emphasis areas (PEAs) to provide further policy guidance for carrying out metropolitan and state transportation planning. The PEAs are planning topical areas that FHWA and FTA are emphasizing as MPOs and State DOTs develop their respective planning work programs. The PEAs reflect a renewed focus on transportation planning brought about by MAP-21. The PEAs include:

- MAP-21 implementation and the transition to performance-based planning and programming
- Models of Regional Planning Cooperation to promote cooperation and coordination across MPO boundaries and across State boundaries where appropriate to ensure a regional approach to transportation planning
- Ladders of Opportunity to provide access to essential services as part of the transportation planning process and to identify transportation connectivity gaps in access to essential services.

As shown in the following sections, the BRTB's approach is consistent with the U.S. DOT's directive to MPOs to encourage incorporation of Planning Emphasis Areas into their work programs.

### **Performance-Based Planning and Programming**

With respect to both states and MPOs, MAP-21 stipulates that the transportation planning process is to "provide for the establishment and use of a performance-based approach to transportation decision-making." Tasks delineated in the UPWP are linked to the region's performance-based approach.

MAP-21 requires the metropolitan transportation plan and the transportation improvement program (TIP) to include a description of regional performance measures and targets used in assessing the performance of the transportation system. The metropolitan transportation plan also will include a system performance report evaluating the condition and performance of the transportation system with respect to the established targets. The TIP is also required to include a description of the anticipated effect of the TIP toward achieving the performance targets set in the plan.

Consistent with MAP-21's emphasis on performance-based planning, the BRTB has established several performance measures and targets. These will enable the BRTB to monitor and evaluate, over time, the performance of the region's transportation system relative to the regional goals. Shown below are the adopted measures and targets for the region.

### **Regional Performance Measures and Targets – Areas Required by MAP-21**

System Safety – Roadways (the following safety measures apply to all public roads)

- Reduce serious injuries per 100 million vehicle miles traveled (VMT) to 3.0 by 2040.
- Reduce fatalities per 100 million VMT to zero by 2040.
- Reduce number of serious injuries to 676 by 2040.
- Reduce number of fatalities to zero by 2040.

System Safety – Transit (the following measure applies to both MTA and local transit agencies)

- Reduce number of preventable accidents per 100,000 revenue vehicle miles to zero by 2040.

System Conditions – Roadways and Bridges

- Maintain portion of state-owned roadway miles with acceptable ride quality at 82% or above.

- Maintain portion of structurally deficient state and local bridges below 5.0%.

#### System Conditions – Transit

- Maintain average age of MTA and local transit agency bus fleets below 7.0 years.

#### System Performance – Congestion

- Maintain portion of VMT in congested conditions on state-owned arterials during the evening peak hour (5-6 PM) below 25%.

#### System Performance – Freight

- Maintain average truck turnaround time at Seagirt Marine Terminal below 58 minutes.

#### System Performance – Emissions

- Maintain levels of VOC, NOx, PM2.5, and CO emissions at levels less than motor vehicle emission budgets in the State Implementation Plan.

### **Regional Performance Measures and Targets – Beyond MAP-21 Requirements**

- Increase percentage of urban area state-owned directional roadway miles that have sidewalks (both sides of the roadway) to 25% by 2040.
- Increase bicycle-walk-to-work mode share to 5.0% by 2040.
- Increase average weekday MTA and local agency transit ridership (all modes) to 500,000 by 2040.
- Measure of greenhouse gas reduction (specific measure and target to be determined after results of EERPAT analyses are complete)

### **Models of Regional Planning Cooperation**

“Models of Regional Planning Cooperation” is one of the U.S. DOT’s Planning Emphasis Areas. To improve collaboration and decision-making in transportation planning, the FHWA and FTA are leading an initiative on Regional Models of Cooperation – Multi-jurisdictional Coordination to promote interagency agreements and improved planning processes that cross agency jurisdictional boundaries.

The benefits of regional planning cooperation and multi-jurisdictional planning include, but are not limited to:

- Improved input for transportation decision-making
- Increased awareness of transportation projects
- Improved public participation
- Reduced project delivery time
- Flexible and combined funding options
- Improved air quality analysis
- Improved freight movement coordination
- Reduced traffic congestion
- Enhanced economic development
- Improved public-private partnerships
- Increased livability
- Improved safety

The BRTB and the staff of BMC enjoy a close working relationship with neighboring MPOs. There are regular

contacts between staff at all levels leveraging combined resources and ensuring consistency in planning. Over the past few years staff directors of the National Capitol Transportation Planning Board (TPB), the Wilmington Area Planning Council (WILMAPCO) and the York Area Metropolitan Planning Organization (YAMPO) have presented details of work programs to the Baltimore Regional Transportation Board.

### **Ladders of Opportunity**

“Ladders of Opportunity” is another of the U.S. DOT’s Planning Emphasis Areas. Ladders of Opportunity are means to filling transportation connectivity gaps that can limit access to essential services such as housing, employment, health care, and education. These encompass measures intended to make communities more livable for all residents, including underserved and disadvantaged populations.

The coordination of the development of the next regional plan, *Maximize2040: A Performance-Based Transportation Plan*, with the federal livability principles and the work of The Opportunity Collaborative (see description below) represents an important step in this process.

### **Integrating Regional Sustainable Planning Work with Transportation Planning**

The Opportunity Collaborative is the consortium responsible for developing Baltimore’s Regional Plan for Sustainable Development (RPSD). The Collaborative is a 25-member coalition consisting of six local governments, the BRTB, three Maryland state agencies, two universities, and local philanthropic and advocacy organizations. Funding for The Collaborative’s work is through a Sustainable Communities planning grant from the U.S. Department of Housing and Urban Development (HUD).

The Opportunity Collaborative has developed a comprehensive RPSD that links the region’s housing, transportation, and workforce development plans and investments. Developing the RPSD included extensive community education and engagement, citizen leadership development, and sub-grant funding for demonstration projects.

In developing the RPSD and its supporting housing and workforce development plans, The Collaborative has followed the federal livability principles, with one important addition:

- Protect the Chesapeake Bay by promoting location-efficient and low-impact development in the region, and more specifically by developing a Green and Healthy Neighborhoods program aimed at preserving and rehabilitating existing housing in the region in a “green” manner that considers the water downstream.

The BRTB will continue to monitor and react to new initiatives through the Federal Partnership for Sustainable Communities—consisting of U.S. DOT, U.S. Department of Housing and Urban Development (HUD), and EPA. This will include exploring ways to further incorporate the six federal livability principles into the UPWP and to integrate sustainable community planning with transportation planning.

The expanded work activities of planning and coordinating affordable housing, workforce training and renewable energy have recently been reinforced within the work program of the Baltimore Metropolitan Council through a 2014 State Law.

### **Transportation Equity Planning**

Equity planning recognizes and builds on three important factors:

- the priority of public participation in the planning process

- the integration of the federal emphasis on Ladders of Opportunity into metropolitan planning processes and products
- the important regional insights gained through the work of The Opportunity Collaborative

Equity is a general term that considers the distributive “fairness” of decisions, projects, and services. A subset of the issue is environmental justice, which considers how decisions specifically affect minority and low-income individuals.

Since FY 2002, the BRTB has supported efforts to conduct technical assessment of projects and programs included in all plans and programs as to their ability to balance the region’s transportation network in relation to economic opportunities.

### **UPWP PRIORITIES: IMPROVING THE REGIONAL PROCESS**

The FY 2016-2017 UPWP includes several priority work tasks whose ultimate objective is to improve the analytical and consensus building capabilities of the BRTB. The UPWP details the “prescriptive” planning activities that must be addressed—such as Public Participation, the Transportation Improvement Program, and a Congestion Management Process—to maintain a viable “3-C” planning process and meet federal certification requirements. The UPWP also describes the various tasks designed to better inform the decision-making process of the region’s long-range plan and the TIP as well as the technical and policy planning activities. This work plan has also been prepared to ensure sufficient levels of support (financial and political) and create an atmosphere of trust and cooperation among the wide array of stakeholders to be tasked to assist in various work activities undertaken by the BRTB. Additionally, cooperation and coordination extends beyond the boundaries of the Baltimore region in all directions as the BRTB collaborates with neighboring MPOs and related entities for a range of purposes that benefits all stakeholders in the transportation planning process. In addition to the activities directly involving the BRTB, a number of major transportation-related studies are under way throughout the region that are detailed in Appendix D.

### **Improving Transportation Safety**

One of the region’s guiding principles is to develop a transportation investment strategy that improves safety for all users of the system. BRTB members and BMC staff were actively involved in the development of the 2005-2010 and 2011-2015 Strategic Highway Safety Plans (SHSPs) that have served as blueprints to reduce crashes, injuries, and fatalities for the traveling public. BMC staff currently play an active role in the development of the 2016-2020 SHSP on the infrastructure, pedestrian, and aggressive driving emphasis area teams. The 2016-2020 SHSP is led by the Motor Vehicle Administration’s Highway Safety Office and will be approved by late 2015.

Since FY 2008, the BRTB sponsored several regional safety media campaigns targeting distracted driving among young drivers and pedestrian and bicyclist safety in the metropolitan region. Since 2009, BMC in partnership with the Maryland Highway Safety Office (MHSO) has implemented the StreetSmart bicycle and pedestrian safety campaign to reduce the number of crashes and fatalities involving pedestrians and bicyclists in the region. BMC and the BRTB’s Regional Safety Subcommittee will play an active, advisory role in the deployment of the 2015/2016 Street Smart campaign.

In FY 2016, BMC staff will continue to expand this public outreach initiative to incorporate other partnerships and communication opportunities. Throughout FY 2016, BMC staff will work with Community Traffic Safety Program (CTSP) coordinators as well as state and federal representatives to educate and train decision makers on system, driver and vehicle safety improvement strategies.

**Addressing Air Quality Standards / Environmental Impact Mitigation**

In an attempt to ensure timely attainment of air quality standards and protect public health, the BRTB continues to view clean air planning as a major priority. As a moderate non-attainment area under the 2008 8-hour ozone standard, the Baltimore region must complete certain requirements to show progress toward attainment of this standard or face federally-imposed penalties. EPA has determined that the Baltimore region has attained the fine particulate matter standard, and is now in a maintenance phase with respect to that standard. The 1990 amendments to the Clean Air Act mandated the implementation of specific state actions that reduce vehicular emissions through technological enhancements and expanded vehicle emissions inspection programs as measures to offset growth related to future vehicle emissions. Moreover, the BRTB is required by federal mandate to demonstrate that implementation of the region's proposed transportation plans and programs conform to the applicable State Implementation Plan (SIP).

Under a cooperative Memorandum of Understanding (MOU) between the Maryland Departments of the Environment and Transportation, the BRTB established the Interagency Consultation Group (ICG) in 1996 to assess the conformity requirement of the metropolitan transportation planning process and to evaluate the development of regional transportation plans and programs with the preparation of mobile source emission budgets included in the SIP. The BRTB will continue to evaluate potentially endorsable transportation control measures for the Baltimore non-attainment area.

Through the UPWP, the BRTB is reaffirming its support of Clean Air Partners, a non-profit, public- private partnership committed to improving air quality in the metropolitan Baltimore and Washington regions. The Partners raise public awareness of air quality issues and promotes voluntary actions by individuals and organizations to reduce emissions. More information on this partnership can be found in the section describing the Environmental Planning task.

In keeping with the environmental impact mitigation regulations for metropolitan planning, the BRTB will continue environmental coordination with local and state regulatory agencies and will use resource inventories and conservation plans to evaluate environmental resource indicators.

**Improving System Operations / Congestion Management Process**

Efforts to develop a comprehensive approach to transportation planning in the Baltimore region include opportunities to employ technology and enhanced coordination as a means of adding capacity to the region's transportation network. This work includes the continued support of various committees and projects that focus on enhancing regional transportation systems management and operations (TSMO) coordination in an attempt to improve safety while also improving overall system efficiency. Some of these committees and projects are sponsored by the BRTB and others are sponsored by SHA, with BMC staff participation. Issues such as inter-jurisdictional signal coordination, incident management, and roadway, bicycle and pedestrian safety are major regional priorities that can be improved through TSMO initiatives.

Congestion management work tasks will also continue, as the region looks to detail strategies and solutions to congestion problems throughout the metropolitan area. As part of the ongoing effort to monitor the effectiveness of the regional CMP, BMC staff will continue to gather traffic counts and highway speed / travel time data, under the Travel Monitoring Program. Staff also has access to external datasets such as the Vehicle Probe Project Suite (developed through the I-95 Corridor Coalition by the University of Maryland Center for Advanced Transportation Technology Laboratory). The internal and external data will be combined to continue the development of the quarterly bottleneck reports, as well as to develop other useful congestion monitoring tools. The annual quarterly bottleneck report will serve as the systematic guide for monitoring congestion that provides information on transportation system performance and identifies opportunities and alternatives for alleviating congestion and enhancing mobility.

Corridors to be studied will be selected based on performance measures and congestion density (including adjacent congested segments and / or intersections) and predominant travel patterns as well as group consensus and professional judgment. Data and performance measures along these corridors will be shared with state and local operators and BRTB subcommittees such as traffic signal, traffic incident management, freight, and safety to coordinate improvements and programs.

#### **Addressing Freight Needs**

The UPWP also includes continued support toward the understanding of regional freight flows, corridors, and facilities. The BRTB will continue to widen its awareness and identification of freight movement issues through a planned regional freight-related database as well as through the activities of the regional Freight Movement Task Force. These efforts will build on various work tasks completed in previous years.

In FY 2016, staff will work with the Freight Movement Task Force (FMTF) and state and local partners to enhance the data and analytical capabilities of the Baltimore Freight Finder. Work on the regional freight analysis task will be an important ongoing initiative. This analysis work is intended to help the region understand how the movement of freight contributes to overall economic well-being and to identify transportation improvements to promote continued economic development opportunities.

#### **Addressing Regional Transportation Security Concerns**

For almost 15 years, BMC staff has been involved in a wide array of transportation security-related planning activities. Staff has participated in the Baltimore Urban Area Homeland Security Work Group (UAWG) and several of its subcommittees since FY 2004, as well as in other local and state sponsored emergency preparedness activities. In addition, the BRTB supports the Transportation & Public Works Committee, which is also a subcommittee of the UAWG. The T&PW Committee brings local and state stakeholders together to address homeland security / emergency preparedness issues important to public works departments.

#### **Accounting for Socioeconomic Factors**

A key part of understanding future travel patterns and behavior is the use of a solid socioeconomic dataset. Based on newly defined Urbanized Area Boundaries in the 2010 Census, BMC staff will work with state agencies and local planners in Queen Anne's County to ensure that the entire Baltimore Urbanized Area is recognized and considered in project planning. BMC staff has developed GIS and map resources that will assist urban area delineation and functional classification activities conducted by local and state agencies.

BMC staff will continue to work with the Cooperative Forecasting Group (CFG) in the Baltimore area and

coordinate with the TPB and WILMAPCO to develop forecasts based on the interaction of the regions. MDP is also a partner in this endeavor.

The CFG members develop employment projections based on a methodology designed to facilitate the estimation and forecasting of employment data across all jurisdictions. This methodology ensures a consistent employment forecast dataset and accompanying long-range employment assumptions. These employment forecasts are part of the Round 8A Cooperative Forecasts for population, households, and employment adopted by the BRTB in FY 2015.

#### **Improving the Travel Demand Model**

The ability to understand existing and future travel patterns and behavior is essential to the transportation planning effort in the Baltimore region. An important element of these efforts is the enhancement and maintenance of the Baltimore region travel demand model technical tools. The work program will continue to support efforts to enhance transportation modeling, simulation methods and analysis capabilities. The analytical tools provide simulations of household and freight (goods and service) travel demand, measuring current and future accessibility and mobility needs.

As quality of life needs and related issues continue to be unpredictable, the influence can be significant on regional travel behavior patterns. In an attempt to understand and plan, where possible, for the challenges imposed by the ever-changing marketplace, staff will continue to dialogue with nearby colleagues at the National Capital Transportation Planning Board (TPB) and the Wilmington Area Planning Council (WILMAPCO). This will include preparing a comprehensive list of inter-state transportation problems and opportunities, both current and future, that limits or enhances the interchangeability of living in one metropolitan region and working in another.

As in previous work programs, resources are directed to upgrading the analytical tools and capacities to meet public policy evaluation needs. This work program will continue to support the traditional trip-based travel demand model (trip generation, trip distribution, mode choice, and trip assignment) and continue the phased transition to an activity-based model. A consultant team will conclude the multi-year project of designing, estimating, calibrating, and validating a household level disaggregate travel model. In partnership with the State Highway Administration (SHA), the region has aggressively pursued federal funding grant opportunities securing resources to develop freight and Dynamic Traffic Assignment technical tools identified in the model update working group multi-year “blueprint”. The ability of the region’s current and future modeling tools to replicate revealed behavior and provide analysis of regional policy questions is valuable for decision-making purposes.

## **PROGRAM MANAGEMENT & COORDINATION**

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**PROJECT:      UPWP MANAGEMENT**

**PURPOSE:**      To manage, coordinate, and guide the activities of the Unified Planning Work Program (UPWP) and the regional transportation planning process. This requires a variety of means including: direct involvement in planning activities, public education and public participation opportunities, and support of the multi-disciplined and multi-agency transportation committees essential to a coordinated regional planning process.

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During Fiscal Year (FY) 2015 staff coordinated with local jurisdictions to collect products and billing information. Monthly Progress Reports and Invoices were submitted to the Maryland Department of Transportation (MDOT). Agendas and minutes for the Baltimore Regional Transportation Board (BRTB) as well as all standing committees were made available to the public. The Executive Committee provided guidance on BRTB agendas as well as direction on Transportation Improvement program (TIP)-related Administrative Modifications. In December 2014 the BRTB and the Technical Committee (TC) held a Retreat to plan for the upcoming UPWP work program and assess progress in the current year. A schedule was endorsed to complete the work program with an opportunity for the public to review. A significant change agreed upon at the Retreat was to shift to a 2-year UPWP. This document represents the first effort at moving in the new direction.

In FY 2016-2017, Baltimore Metropolitan Council (BMC) staff will continue to provide administrative support for the UPWP. Staff manages the work program and budget, and is charged with preparation of work programs, contracts and quarterly progress reports. Included within this budget category are non-staff expenses that support transportation planning functions. Typical expenses include: 1) staff training and education, and participation at meetings and other transportation-related seminars, workshops and conferences; 2) membership fees for professional organizations and associations; 3) publication costs including printing and design; 4) travel expenses; 5) preparation for special events; 6) purchase of computers and related software for BMC staff; and 7) annual computer maintenance agreements for BMC and local/state participants. Staff also will provide support activity to the BRTB, TC, Interagency Consultation Group, Public Advisory Committee, Bicycle & Pedestrian Advisory Group, Freight Movement Task Force, Cooperative Forecasting Group, etc., including the preparation of meeting notices, minutes, agendas, mailings, and reports on issues of special committee interest.

The local jurisdictions are also responsible for a similar set of work tasks that are required as part of their involvement in the administration of the UPWP. This includes preparation of invoices and progress reports, financial reports, project work programs, annual UPWP contracts, and related correspondence. This activity also supports the professional development and training activities of the local government staffs.

BMC staff will continue to promote participation of minority business enterprises in the planning process and implementation of transportation projects within the Baltimore region in accordance with Title VI of the Civil Rights Act of 1964 and the requirements set forth in 49 CFR Part 23. Staff will also promote Federal Transit Administration's policy to encourage private enterprise participation in the planning and provision of transportation services.

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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Based on the level of funding made available by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), the bulk of the FY 2017 UPWP is in place. Should some additional funding above that which is documented at this time, member jurisdictions will have an opportunity to consider BMC consultants and Local Subarea projects. Any changes will be reflected in an amended budget table.

PRODUCTS/MILESTONES	SCHEDULE
Minutes, resolutions and special reports	Throughout Fiscal Year
Quarterly progress reports, invoices, and financial reports	Throughout Fiscal Year
FY 2016 UPWP amendments	Throughout Fiscal Year
FY 2017 UPWP budget adjustments	3 <sup>rd</sup> Quarter
FY 2017 UPWP budget development and local contracts as necessary	4 <sup>th</sup> Quarter

**FY 2016 BUDGET:**                      **\$640,000**

**FY 2017 ESTIMATED BUDGET:**   **\$640,000**

**PROJECT: PUBLIC PARTICIPATION AND COMMUNITY OUTREACH**

**PURPOSE:** To allow both individuals and groups opportunities to participate in the regional transportation planning process. Public participation in the planning process is essential because it enables government agencies to understand and account for the concerns and needs of the public, particularly at times when key decisions regarding the region's transportation network are made.

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During Fiscal Year (FY) 2015, staff both informed and engaged the public in a variety of ways, including:

Soliciting Public Comments through comment periods and public meetings on a variety of plans including the Public Participation Plan (PPP), Baltimore Regional Transportation Board (BRTB) Bylaws, Unified Planning Work Program (UPWP), *Maximize2040* Public Project Ideas, and Transportation Improvement Program (TIP) amendments. Staff distributed public comments to, and coordinated responses from BRTB members.

The BRTB Limited English Proficiency (LEP) Plan was updated with new data and expanded to become a Language Assistance Program to ensure that people with disabilities such as hearing loss or vision impairments are made aware of available accommodations and clear policies are in place.

Convening Monthly Meetings of the Public Advisory Committee (PAC) and its subcommittees with presentations on topics such as the four-factor analysis required as part of an LEP Plan, Maryland Transit Administration (MTA) Bus Network Improvement Project (BNIP), the Hanover Street Bridge Multimodal Corridor Plan, various TIP amendments, and *Maximize2040*. One meeting featured a tour of the State Highway Administration (SHA) Statewide Operations Center. The PAC submitted resolutions to the BRTB on a variety of topics including Transportation Alternatives Program grant applications, TIP amendments, PAC name change, Public Participation Plan, *Maximize2040* Performance Measures and Scoring Criteria, BRTB Bylaws, and PAC voting membership on the BRTB. The PAC voted to change the name of the committee to the Public Advisory Committee in an effort to promote inclusion and avoid confusion of the term "citizens" with U.S. citizenship, as U.S. citizenship is not a requirement of participation in the BRTB committees or the metropolitan planning process. In September, the BRTB approved this change.

Improving Communications and Outreach Efforts – Staff conducted outreach and education throughout the year, partnered with local and regional groups, engaged PAC members to assist in outreach and event facilitation, and provided support to the regional Bike to Work Day Coordinating Committee. Staff also worked closely with the Baltimore Metropolitan Council's (BMC) Communications Officer to update BRTB communications and outreach policies, tools, techniques, and plans.

A major outreach initiative was conducted from September through December 2014 and yielded 1,147 Public Project Ideas for *Maximize2040*. Outreach was conducted at nearly 30 locations throughout the region, including MVA branches, MTA transit stations, and community events such as Healthy Harford Day and the Oliver Community Fresh Food Drop. Some of the comments were obtained online via an interactive map at [maximize2040.com](http://maximize2040.com).

Staff continued to utilize social media to share information and grow audiences on Facebook, Twitter, and LinkedIn pages for B'more Involved, Bike2WorkCentralMD, and *Maximize2040*. The total reach on these enews and social media networks surpassed 13,000 in FY 2015. Press releases were sent to a mailing list of over 600 subscribers, local media outlets, in addition to being posted on the BMC web site.

Improving the BMC Web Site – Staff worked with the webmaster and a consultant to implement a new information architecture and web design for the BMC web site. This effort resulted in a higher profile for BRTB activities. Ongoing site improvements and streamlining of information was also conducted throughout the year.

In FY 2016-2017, staff will continue to educate and engage the public early and often throughout the planning process. Highlights of upcoming activities include:

**Solicit and Address Public Comments:** Staff will solicit public input throughout the planning process by promoting public comment opportunities, hosting public meetings, and conducting outreach and education efforts throughout the region. In particular, staff will promote comment opportunities for *Maximize2040*, Transportation Improvement Program, UPWP, Air Quality Conformity Determination, the 2016 Federal Certification Review, and other plans and programs issued for public review by the BRTB.

Staff will continue to implement the PPP and work to address new federal guidance on planning regulations, feedback from the PAC, public input, and research of best practices among other metropolitan planning organization's (MPO) and planning/transportation groups. Comments from the public will be shared with the BRTB members and incorporated into plans when feasible. Responses to public comments will be coordinated and monthly reports on comments and outreach efforts will be provided to the BRTB.

**Convene the Public Advisory Committee:** Staff will convene and provide support to the PAC members at monthly meetings of the PAC and the subcommittees.

**Improve Communications and Outreach Efforts:** Staff will coordinate and collaborate on outreach and education efforts including: *Maximize2040*, TIP, Bike to Work Day, Clean Commute Initiative, etc.

Staff will utilize a variety of communications tools and techniques to reach the public including: Outreach at local events and meetings; Sending press releases and e-newsletters, maintaining a robust social media presence; distributing surveys, place advertisements in local media outlets, etc.

**Support Web Site Improvements:** Staff will continue to make improvements to the function of the web site and update content. When possible, new visualization tools will be utilized.

PRODUCTS/MILESTONES	SCHEDULE
Solicit and Address Public Comments	Throughout Fiscal Year
Public Advisory Committee	Monthly (or as needed)
B'More Involved, Press releases, and other e-news/social media marketing	Throughout Fiscal Year
Conduct outreach and promote initiatives	Throughout Fiscal Year

**FY 2016 BUDGET:**                      **\$165,000**

**FY 2017 ESTIMATED BUDGET:**   **\$165,000**

**PROJECT:      PROFESSIONAL CONSULTANT SERVICES**

**PURPOSE:**      To retain consultant services for work activities in the Unified Planning Work Program (UPWP) that requires external support due to complexity or uniqueness of the tasks. These work efforts will strengthen the overall regional transportation planning process and expand the capabilities of the BRTB. BMC will utilize transportation consultants to expand the activities funded in the UPWP and to provide services that are currently not available to the BRTB.

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During Fiscal Year (FY) 2015, three multi-year option contracts continued including on-call services related to freight and transit planning activities and the development of an activity based travel demand model. These contracts are anticipated to conclude in FY 2016. Consultants are typically utilized in various activities to enhance the decision-making ability of the region's transportation professionals and provide input to BMC staff.

In FY 2016, the continued use of consultant services will be employed. At the direction of the BRTB, BMC staff expects to explore using consultant services for the following potential activities:

**Model Development** – Continued development of an activity based travel demand model.

**Travel Monitoring Program** – Obtain portable and classified traffic and/or bicycle/pedestrian counts throughout the region for use in the travel demand model and for local traffic management purposes.

**Regional Transit Analysis** – Follow-up studies to FY 2015 activities as directed by the BRTB.

**Regional Freight Analysis** – Follow-up studies to FY 2015 activities as directed by the BRTB.

PRODUCTS/MILESTONES	SCHEDULE
Consultant contracts	Throughout Fiscal Year
Memoranda/Reports	Throughout Fiscal Year

**FY 2016 BUDGET:                      \$745,000**

**FY 2017 ESTIMATED BUDGET:   \$682,000**

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## **LONG-RANGE TRANSPORTATION PLANNING - SYSTEM LEVEL**

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**TASK:            LONG-RANGE PLANNING**

**PURPOSE:**     Maintain the regional planning process in response to guidance in the Metropolitan Planning Regulations. Develop the plan guiding long-term investments in the region's transportation systems.

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During Fiscal Year (FY) 2015 a range of activities supporting long range planning were completed.

2015 Plan – Staff continued to refine the schedule for the 2015 plan as well as data needs, required analyses, and public outreach objectives and techniques. Staff also monitored U.S. Department of Transportation (DOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) websites for release of additional information on Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) national standards and performance measures.

The Baltimore Regional Transportation Board (BRTB) adopted the Round 8A socioeconomic forecasts developed by the Cooperative Forecasting Group in June 2014.

In preparation for the solicitation of projects from local jurisdictions, staff conducted some scenario planning activities. This included getting public and focus group input in June and July on major forces and trends that could dramatically affect the ways in which people in the region will live and travel over the next 25 years. Based on this input, staff held two scenario workshops (September 23 and December 11). The purpose was to examine the critical future forces identified as being most significant by the public and the focus group (population and job overflow from the Washington, DC area; technological advances in vehicle-to-vehicle and vehicle-to-network systems and sensors; climate change effects exacerbated by human activity). Staff provided the findings from these workshops to the Technical Committee and the BRTB to help inform the project submittal and evaluation process.

In consultation with the Maryland Department of Transportation (MDOT), the BRTB adopted financial forecasts for the 2015 plan in October 2015.

In keeping with MAP-21's performance-based approach to planning and programming, staff continued to meet with the BRTB's advisory committees to solicit their input relative to regional performance measures and targets for the 2015 plan. Potential measures incorporate the latest recommendations from federal agencies as well as information from MDOT's annual attainment report. The BRTB adopted performance measures and targets for the 2015 plan in December 2014.

Staff continued to coordinate on job access and affordable housing issues with the team developing the Regional Plan for Sustainable Development (being developed through a U.S. Department of Housing and Urban Development Sustainable Communities grant).

A 3-month comment period and outreach initiative was conducted from September through December to collect project ideas from the public. This effort yielded over one thousand project ideas from a wide range of stakeholders.

In November 2014, the BRTB adopted evaluation criteria to guide the selection of projects for the 2015 plan. Staff coordinated the development of these criteria with the Technical Committee. In January of 2015 there was a solicitation for candidate projects in a collaborative process between state and local partners. This process also includes the evaluation of candidate projects and development of a draft preferred alternative

consistent with the financial forecasts and Year of Expenditure (YOE) cost estimates.

Once this is in place the BRTB will solicit public and stakeholder input on the draft preferred alternative. Staff will test the draft preferred alternative relative to regional goals, strategies, and performance measures. This process will include modeling for air quality conformity and travel demand, evaluation with respect to the regional congestion management process, and evaluation relative to regional equity objectives and environmental justice requirements.

FY 2016 activities are shown in the table below. FY 2017 activities will include monitoring of the region's progress with respect to performance measures and targets. Staff will conduct this process in consultation with the Maryland Department of Transportation.

PRODUCTS/MILESTONES	SCHEDULE
Solicit public and stakeholder input on draft plan	1st Quarter FY 2016
Develop final plan	2nd Quarter FY 2016
BRTB adopts final plan	2nd Quarter FY 2016
FHWA and FTA approve final plan; EPA accepts determination of air quality conformity	3rd Quarter FY 2016

**FY 2016 BUDGET:**                      **\$130,000**

**FY 2017 ESTIMATED BUDGET:** **\$130,000**

**TASK: CONGESTION MANAGEMENT PROCESS**

**PURPOSE:** Study and analyze regional patterns to identify recurring and non-recurring congestion and develop strategies to improve travel for people and goods in a safe and reliable manner.

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Over the last several years, staff has been able to expand congestion management process (CMP) activities due to the availability of significantly more data being available at minimal cost, through the I-95 Corridor Coalition Vehicle Probe Project (VPP) Suite. Staff has been very active on the I-95 Corridor Coalition's Vehicle Probe Project. Staff has also been participating in the mid-Atlantic archived operations data group that is leading the effort to develop a common set of performance measures for the corridor, using the I-95 Corridor Coalition's (VPP) Suite. In FY 2014, staff developed a bottleneck report that identifies the top ten bottlenecks in the region. This report is updated and posted each quarter. Staff has also prepared two corridor congestion brochures, based on a template developed by the mid-Atlantic archived operations group.

In FY 2016–2017, CMP efforts will continue to expand and to leverage the data available through the VPP Suite and other data sources. Work will include: monitoring the highway network using vehicle probe data and developing quarterly bottleneck reports, using congestion measures such as travel time index consistent with the mid-Atlantic archived operations data group states and metropolitan planning organizations (MPOs), developing one or more corridor congestion brochures to highlight delay and cost of congestion and measures being taken by state and local agencies to improve mobility and safety (similar to the previously created brochures).

In addition, staff will review the SHA Annual Mobility Reports to identify evaluation techniques that could be leveraged to monitor congestion on local roads. Staff will continue coordination to better link planning and National Environmental Policy Act/environmental planning efforts and will continue to participate as a commenting agency as part of the State Highway Administration's (SHA's) Interagency Review process for project planning. Staff will look at MAP 21 measures and measures selected by our regional neighbors (i.e., Travel Time Index, etc.) to ensure our measures are compatible with requirements and neighbors.

Each year, staff will review projects being added to the Transportation Improvement Program (TIP) from the long range transportation plan to identify planned congestion management strategies.

PRODUCTS/MILESTONES	SCHEDULE
Quarterly Congestion Reports	Quarterly

**FY 2016 BUDGET:** \$155,000

**FY 2017 ESTIMATED BUDGET:** \$155,000

**TASK:            OPERATIONS PLANNING**

**PURPOSE:**        To improve the movement of people and goods and to increase the safety and efficiency of the transportation system through enhanced coordination of existing management and operations (M&O) activities and implementation of new management and operations (M&O) activities.

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During Fiscal Year (FY) 2015, staff supported the ongoing activities of several operations-focused committees described below. Staff also continued to support operations efforts of the State, neighboring regions, and professional organizations such as the Intelligent Transportation Society (ITS) of Maryland. Staff has also worked to identify opportunities to further integrate operations into the transportation planning process, particularly through closer coordination with the regional Congestion Management Process (CMP).

Supporting Regional Operations Committees:

Traffic Signal Subcommittee - A quarterly meeting to discuss signal operations and ways to improve mobility and safety for all road users including pedestrians, bicyclists, and motorcycle riders. In mid-FY 2015, another Traffic Signal Forum was held, in conjunction with the Intelligent Transportation Society of Maryland Annual Meeting. Local jurisdictions continue to deploy adaptive and other signal control systems using congestion mitigation and air quality (CMAQ) funds.

Traffic Incident Management for the Baltimore Region (TIMBR) Committee - Meeting bi-monthly to improve communication, coordination and cooperation needed for safe and efficient traffic incident management in the region. Staff continued to promote committee products, including the Traffic Incident Management (TIM) On-line Training Course ([www.BaltimoreTIMCourse.org](http://www.BaltimoreTIMCourse.org)); safety messages; and Funeral Procession Contact List and Guidelines. Staff also worked with State Highway Administration (SHA) and Maryland State Police (MSP) representatives to schedule and promote the Strategic Highway Research Program (SHRP) 2 TIM Training. The TIMBR Committee continued to look at measuring TIM performance and developing performance goals.

Transportation & Public Works Committee – The Committee pursued daily operations and public works topics as well as supported homeland security / emergency preparedness planning. (Refer to Emergency Preparedness Planning section for emergency preparedness activities).

Coordination with Operations Partners:

In addition to supporting regional activities, committees, and initiatives, staff supports local and state partners by participating in their operations planning activities. Baltimore Metropolitan Council (BMC) staff is a member of the State's Coordinated Highways Action Response Team (CHART) Board. Also, staff participates in several SHRP2 implementation projects that are led by SHA. One of the projects involves the development of a Transportation System Management and Operations Plan for the state.

With SHA as the lead, the region submitted an application to the Federal Highway Administration (FHWA) under the Integrated Corridor Management (ICM) Grant Program. If the application is funded, work on the project will be on-going in FY 2016. The SHA Office of Planning and Preliminary Engineering (OPPE) took the lead on applying for the SHRP2 Implementation Grant and the ICM Grant.

In FY 2016-2017 staff will focus on: supporting regional operations committees, coordination with

operations partners, and coordinating with internal and external stakeholders on using archived operations data to support the regional CMP and measuring performance, as required by Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21).

**Supporting Regional Operations Committees:**

**Traffic Signal Subcommittee** - The subcommittee will hold its next Regional Traffic Signal Forum in mid-FY 2017. The Subcommittee will also coordinate with the CMP and corridor analysis teams to identify potential projects that could be eligible for CMAQ and/or other types of funding.

**Traffic Incident Management for the Baltimore Region Committee** - the Committee will continue to improve communication, coordination and cooperation needed for safe and efficient traffic incident management in the region. Previous efforts at measuring TIM performance and developing performance goals will continue. Staff will continue to: update and distribute the Funeral Procession Contact List; support SHA, as the lead organization, in scheduling SHRP2 TIM Training sessions for responders in the region; work on updates to the annual TIM self-assessment; and advance priority initiatives identified by the TIMBR Committee.

**TIM Conference:** Staff will work with several TIMBR committee members to plan a TIM conference to be held when funding is identified.

One potential topic that has been discussed is changes in how public works departments plan, design, prepare for, and carry out their day to day and extreme weather operations in light of recent patterns of stronger and more frequent extreme weather events.

**Transportation & Public Works Committee** – The Committee will continue to identify topics for discussion at regional information exchange forums, with the goal of holding one or two in each fiscal year, as topics are identified and funding is available.

**Coordination with Operations Partners**

Staff will continue to support operations activities of various partners. If the application to the Integrated Corridor Management Grant Program is funded, work on the project will be on-going in FY 2016-2017.

PRODUCTS/MILESTONES	SCHEDULE
Subcommittee meeting minutes	Throughout Fiscal Year
Support stakeholder operations activities	Throughout Fiscal Year
Hold an incident management conference (if funding is available)	TBD
Hold T&PW forum(s)	TBD
Coordinate with regional CMP	Throughout Fiscal Year

**FY 2016 BUDGET:**                      **\$125,000**

**FY 2017 ESTIMATED BUDGET:**   **\$125,000**

**TASK: SAFETY PLANNING AND ANALYSIS**

**PURPOSE:** Improve safety in the region by supporting State and local efforts to reduce crashes, injuries, and fatalities. Fully integrate Metropolitan Planning Organization activities with the Maryland Strategic Highway Safety Plan (SHSP) as well as local safety planning efforts.

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During Fiscal Year (FY) 2015, the Baltimore Region Safety Subcommittee (BRSS) met quarterly to work with safety stakeholders to identify regional safety issues and develop programs and resources to reduce the number of crashes, injuries and fatalities in the region. The BRSS brings together state and local representatives from the 4 E's – Engineering, Education, Enforcement, and Emergency Medical Services. Baltimore metropolitan Council (BMC) staff worked closely with the Maryland Motor Vehicle Administration's Highway Safety Office, State Highway Administration (SHA), and local jurisdictions in developing the next SHSP (2016-2020).

In FY 2016-2017, BMC staff will continue to play an active role in the implementation of the state's 5-year (2016-2020) SHSP. The SHSP is a blueprint for reducing crashes, fatalities, and injuries across the state and the region. BMC staff co-chairs the Infrastructure Emphasis Area Team (EAT) and play an active role on the Pedestrian EAT and the statewide Motorcycle Safety Coalition. Staff will also continue to play an active role on the Baltimore City, Anne Arundel, Carroll, Howard and Baltimore-Harford County safety task forces led by the regional traffic safety program coordinators from the Maryland Highway Safety Office (MHSO). A new effort which began late in FY 2015 is the development of an Intersection Safety Implementation Plan (ISIP). The development of this plan is a component of the SHSP and SHA's Business Plan as one of many strategies to improve safety for the traveling public. The ISIP can be characterized as a systemic approach to intersection safety with the identification of low-cost, effective countermeasures to be deployed across the State in an effort to target key locations accounting for a large proportion of statewide intersection crashes.

BMC ran the Street Smart pedestrian safety campaign from 2009 to 2014 with significant funding support from the MHSO. The FY 2014 campaign included Baltimore City and Anne Arundel, Baltimore and Harford Counties. Street teams were deployed along several high pedestrian crash corridors to distribute driver and pedestrian safety messages. The media element of the campaign included radio and television public service announcements, billboards, overhead banners, gas-pump toppers and online and social media outreach. Moving forward, BMC staff and the BRSS will play an advisory role to the MHSO and local jurisdictions and help identify high pedestrian crash corridors in the region and coordinate deployment of street teams and outreach efforts.

BMC is an active, non-voting member of the technical and executive committees of the Traffic Records Coordinating Committee (TRCC). The mission of the TRCC is to coordinate all traffic records system components (crash, roadway, citation/adjudication, driver, vehicle, injury surveillance) using data quality performance measures (timeliness, completeness, accuracy, accessibility, integration, uniformity) in an effort to advance the Maryland traffic safety community. BMC staff will continue to get crash data and analytical support from the MHSO and the National Study Center (NSC). Staff will share crash data reports with the various subcommittees on a regular/as-needed basis.

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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PRODUCTS/MILESTONES	SCHEDULE
Regional Safety Subcommittee Meetings Data and Analysis	Quarterly
Regional Pedestrian Safety Coordination	Throughout Fiscal Year
Collaborate with state and local agencies on public safety	Throughout Fiscal Year

**FY 2016 BUDGET:**                **\$125,000**

**FY 2017 ESTIMATED BUDGET:**   **\$125,000**

**TASK:            BICYCLE AND PEDESTRIAN PLANNING**

**PURPOSE:**     To strategically develop and support implementation of regional and local plans which promote opportunities for an integrated multi-modal transportation system. Development of various plans should be related to regional goals in an effort to achieve connectivity, mobility and safety.

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During Fiscal Year (FY) 2015, the Baltimore Metropolitan Council (BMC) facilitated the following activities on a regional level: continued support for the StreetSmart education program; continued research for a bicycle and pedestrian counting pilot project (and applied for an Federal Highway Administration (FHWA) pilot count program), participated in Healthy Harford Day in September; reviewed the 2016-2019 Transportation Improvement Program (TIP) in relation to bike and pedestrian improvements; and invited the Executive Director of Bike Maryland and the Maryland Recreation and Parks Association to BPAG.

In FY 2016-2017, the successful development of many local bicycle and pedestrian plans will be followed with efforts to support implementation of the recommendations. The Bicycle and Pedestrian Advisory Group will advise the Baltimore Regional Transportation Board (BRTB) on bicycle and pedestrian considerations in the context of the overall regional transportation planning framework. The BPAG will track and report on progress on implementing projects from relevant plans and provide the status of planning and construction phases.

Additionally, BPAG will support related efforts such as the annual Street Smart safety program and emerging Complete Streets projects. BPAG will review the bicycle and pedestrian counts that are collected at select activity centers as well as work to institute a uniform approach to data collection and maintenance by all parties.

In FY 2016 BPAG members will work with the Baltimore Regional Geographic information Systems Committee to discuss and come to agreement on data to be collected and applied to a regional, electronic map of all on-road and off-road bicycle facilities in the region. There will also be a discussion of the frequency of updates and how they will be managed. Moving into FY 2107, data will be collected and the map will become available to members and the public.

PRODUCTS/MILESTONES	SCHEDULE
Staff Bicycle and Pedestrian Advisory Group	Bi-Monthly
Coordinate B2WD events	3 <sup>rd</sup> & 4 <sup>th</sup> Quarters

**FY 2016 BUDGET:                    \$85,000**

**FY 2017 ESTIMATED BUDGET:   \$85,000**

**TASK: FREIGHT MOBILITY PLANNING**

**PURPOSE:** To incorporate freight movement into the regional transportation planning process by bringing together public and private sector freight stakeholders and providing data and analytical tools that help prioritize freight investments.

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During Fiscal Year (FY) 2015, the Freight Movement Task Force (FMTF) met quarterly to discuss various topics of regional significance such as the Maryland primary freight network, the Delmarva freight study, overnight parking along I-83, etc.

A consultant team was hired in FY 2014 as part of a three-year on-call basis to support freight studies in support of the FMTF. To date, the consultant has assisted the team in collecting overnight truck parking count data along I-83 between I-695 and the Pennsylvania State line and developing an online freight finder tool.

In FY 2016-2017, the FMTF will continue to meet quarterly. The FMTF serves as an advisory committee to the BRTB. Its function is to provide a voice for public and private freight transportation stakeholders in the metropolitan planning process. The Task Force includes representatives from rail (CSX and Norfolk Southern), highway (Maryland Department of Transportation (MDOT), State Highway Administration (SHA), Maryland Transportation Authority (MdTA)), water (Maryland Port Administration and Port of Baltimore), trucking (Maryland Motor Truck Association) as well as local economic development, traffic and planning representatives.

Staff will work with the FMTF and ad hoc groups to incorporate freight needs from water to rail to trucks, for a safe and efficient regional freight network.

The following are some of the technical activities that are anticipated to be carried out: develop Local Economic Activity Corridors (LEAC); coordinate with MDOT/SHA on freight performance measures to be included in the update to the long range plan; and coordinate with state/local offices of economic development.

PRODUCTS/MILESTONES	SCHEDULE
Freight Movement Task Force Meetings	Quarterly
Baltimore Freight Finder – online GIS tool (pending funding availability)	Throughout Fiscal Year
Collaborate with state and local agencies	Throughout Fiscal Year

**FY 2016 BUDGET: \$125,000**

**FY 2017 ESTIMATED BUDGET: \$125,000**

**TASK:            TRANSIT PLANNING AND LADDERS OF OPPORTUNITY**

**PURPOSE:**     Develop recommendations and strategies to 1) improve transit service in the Baltimore region, 2) improve transit access to employment and services, 3) address transportation needs of the low-income residents, and 4) promote economic development opportunities.

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During Fiscal Year (FY) 2015, Baltimore Metropolitan Council (BMC) staff worked with the Maryland Transit Administration (MTA) to monitor performance measures for gauging transit system effectiveness relative to the regional goal of improving mobility. This was to comply with the Baltimore Regional Transportation Board's (BRTB) request for an annual progress report relative to the performance measures adopted in the current regional transportation plan, *Plan It 2035*, adopted in November 2011.

Regional Transit Analysis - Staff continued to work with the ad hoc committee GO-TRAN (Group Overseeing Transit Analysis) to conduct a regional transit analysis. This included staff analysis and presentation of population and employment density data in selected candidate corridors as well as further development of indices to aid in analysis of corridors (i.e., Transit Propensity Index and Transit Service Index). Also, the selected on-call consultant conducted transit analysis work under a task-order contract. Work included Tasks 1 and 2. Task 1 involved developing profiles of the locally operated transit service (LOTS) agencies. Task 2 involved analyzing best practices for project evaluation and selection criteria to aid in project evaluation and selection for the long-range transportation plan and the Transportation Improvement Program (TIP).

BMC staff served on the steering committee for MTA's Bus Network Improvement Project (BNIP). The intent of this project is to engage the public, transit operators, and other agencies to identify and make improvements to MTA's core bus service.

Coordination with Transit Providers - Coordination continued with state, local and private transit operators as well as local jurisdictions and stakeholders to improve transit service performance and utilization. This included maintaining the working agreement with the MTA and locally operated transit systems (LOTS) agencies to ensure appropriate involvement in the regional transportation planning process.

In FY 2016 and FY 2017, a new activity will be to identify transportation connectivity gaps in access to essential services. Essential services include housing, employment, health care, schools/education, and recreation. This Federal Transit Administration (FTA) planning emphasis area will include identification of performance measures and analytical methods to measure the transportation system's connectivity to essential services and the use of this information to identify gaps in transportation system connectivity that preclude access of the public, including traditionally underserved populations, to essential services. It could also involve the identification of solutions to address those gaps. This activity is timely in that it continues work begun under a Housing and Urban Development grant for sustainable communities. Transit analysis completed to assist with work force development and affordable housing assessments will provide a base for continuing this work.

Also, staff will continue to work on regional transit analysis efforts through a working group consisting of representatives from MTA and the LOTS agencies. Efforts will build on work begun under the ad hoc GO-TRAN group. This work will include information gathering; identification of current transit system users and user needs, system assets, service areas and service gaps, and barriers to coordination; and development of

short-term, cost-effective strategies to improve service. Work also could include additional detailed analyses of corridors considered for expansion of existing transit service and/or establishment of new service, if directed by the working group. A new area of work will be to look at Traffic Signal Priority (TSP) as an operational strategy that is applied to reduce the delay that transit vehicles experience at traffic signals. TSP involves communication between transit vehicles and traffic signals so that a signal can alter its timing to give priority to transit operations. This work will review existing technologies and new technologies to provide coordination between jurisdictions and MTA/LOTS with the tools to improve transit operations, reduce congestion and promote alternative transit modes for commuters. Technologies to be benchmarked include extending green light signals on identical phases, and altering phase sequences.

Staff will assist MTA with data needs relative to the BNIP project and continue to serve on the BNIP Steering Committee to help MTA implement core bus service changes. In addition, staff will provide technical and procedural support to the Red Line planning process.

Staff will also review recommendations of key state and local transit and comprehensive plans to ensure consistency in goals, priorities, and performance criteria; foster dialogue and information sharing to better serve transit planners and operators in the region, and possibly via electronic newsletter format.

PRODUCTS/MILESTONES	SCHEDULE
Analysis of short-term opportunities to improve service	Throughout Fiscal year
Analysis of potential transit corridors	Throughout Fiscal year
Assist MTA with data needs relative to the BNIP project. Continue to serve on the BNIP Steering Committee to help MTA implement core bus service changes.	Throughout Fiscal year
Review state and local transit plans for consistency	Throughout Fiscal year
Research best TSP operations to accomplish the goals for reducing congestion through efficient transit vehicle signal timing.	1st Quarter
Research best TSP operations to accomplish the goals for reducing congestion through efficient transit vehicle signal timing.	2nd and 3rd Quarters

**FY 2016 BUDGET:**                      **\$225,000**

**FY 2017 ESTIMATED BUDGET:**   **\$225,000**

**TASK: HUMAN SERVICE TRANSPORTATION COORDINATION**

**PURPOSE:** To address transportation needs of the elderly, individuals with disabilities in conjunction with ongoing transit, paratransit, and community-based transportation planning activities.

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Several Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) initiatives support the ongoing human service transportation planning efforts of the Baltimore region. For example, under MAP-21, the following programs are funded: Federal Transit Administration Section 5310 program (Enhanced Mobility of Seniors and Individuals with Disabilities), and United We Ride program. These programs seek to coordinate federally-funded local transportation programs for the seniors and disabled individuals. Priorities are to address MAP-21's human service transportation through involvement in state and local transportation coordinating committees, Section 5310 grant reviews, and planning mobility options for seniors and disabled individuals will be pursued.

Applications for funding through the Enhanced Mobility for Seniors and Individuals with Disabilities will be presented to the Baltimore Regional Transportation Board (BRTB) once staff has reviewed for compliance with the Baltimore Area Plan and the regional short and long range transportation plans. Baltimore Metropolitan Council (BMC) staff will continue to review the goals of the Maryland Coordinating Committee for Human Service Transportation Five-Year Plan, including detailed comparative reviews of the coordination provisions of regional grant applications. This BMC effort will ensure that regional applicants can successfully compete for funding in the annual statewide grant selection process and provide improved service coordination throughout the region.

Also, in FY 2016-2017, staff will continue to participate in and provide coordination, outreach, and technical assistance to the Maryland Department of Disabilities, Maryland Department of Aging and local Aging Agencies, Maryland Research Consortium, local governments, and community organizations that seek to enhance and extend safe mobility for the region's rapidly growing elderly population. Barriers to coordination within the region have been more evident and work will be done to assist in removing those barriers. As part of efforts to support the United We Ride program, BMC staff will seek opportunities to provide outreach assistance to organizations that are working to improve travel options for their client. Staff will participate with the Maryland Transit Administration (MTA) in the review and selection of grant applications for funding under the Maryland Senior Rides Program, and will provide support services to MTA related to human service transportation programs.

Another task for human services transportation planning activities in FY 2016-17 will be livability and the incorporation of active transportation into the menu of options available to seniors and disabled individuals. Research increasingly has demonstrated the benefits of physical activity for people of all ages, but elderly persons can receive particular physical and mental health benefits from exercise and time spent outdoors, and factors such as lack of accessible sidewalks and street crossings, land use decisions by human services agencies and senior housing developers, and fear of street crime or injury can keep seniors from receiving the exercise they need and maintaining the crucial independence of being able to run simple errands without relying on others. for human services facilities and senior housing and conduct outreach to human services providers and the Maryland Coordinating Committee for Human Services Transportation regarding ways to reduce costs and enhance the lives of their clients by facilitating active transportation options,

including pedestrian access to fixed-route transit.

PRODUCTS/MILESTONES	SCHEDULE
Review applications for funding under the Section 5310 Program for BRTB consideration	3rd Quarter
Participate in meetings to assist with coordination of human services transportation	Throughout Fiscal Year
Assist in reviewing applications for the Senior Rides program	3 <sup>rd</sup> & 4 <sup>th</sup> Quarters

**FY 2016 BUDGET:**                      **\$75,000**

**FY 2017 ESTIMATED BUDGET:**   **\$75,000**

**TASK:            EMERGENCY PREPAREDNESS PLANNING**

**PURPOSE:**     To increase the safety and security of the transportation system through enhanced coordination, communication, and cooperation of the region's emergency responders. Emergency planning work supports the Baltimore Regional Transportation Board (BRTB) as well as the Baltimore Urban Area Homeland Security Work Group (UAWG).

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During Fiscal Year (FY) 2015, staff supported the ongoing activities of the regional Transportation & Public Works (T&PW) Committee, which provides input to both the BRTB as well as the UAWG. Staff also continued to support the Disaster Debris Planning Task Force as well as emergency preparedness planning efforts of the State and local jurisdictions. Highlights include: Completion of the mobile-enabled version of the Evacuation Traffic Management Support Document and completion of the after action report for the Evacuation Facilitated Discussion held at the end of FY 2014 and sponsored by the T&PW Committee.

In FY 2016-2017, staff efforts will focus on: Supporting Baltimore Metropolitan Council (BMC)/BRTB emergency preparedness committees and Coordination with and Support of Emergency Preparedness Partners.

Supporting BMC/BRTB emergency preparedness committees:

Transportation & Public Works Committee – The T&PW Committee pursues daily operations and public works topics as well as supports homeland security/emergency preparedness planning. (Refer to Operations section for Operations Planning activities). Staff will continue to support quarterly T&PW Committee meetings and projects. This Committee submits annual project funding requests to the UAWG. BMC staff has taken and will continue to take the lead in preparing the T&PW project proposal submissions to the UAWG (which are now submitted through the UAWG Emergency Management Committee). The T&PW Committee will continue to oversee emergency preparedness projects supported through funds from the UAWG. Projects will focus on evacuation planning and coordination as well as other aspects of emergency preparedness of public works departments.

BMC issued a task order contract for evacuation planning support. The contract will continue through FY 2016, and BMC staff will continue to serve as project manager on the homeland security-funded projects.

Disaster Debris Planning Task Force – The Disaster Debris Planning Task Force, which is a subcommittee of the T&PW Committee, meets quarterly to address coordination issues related to disaster debris planning and removal. In past years, this group held four disaster debris-focused exercises / forums to identify, discuss, and resolve coordination issues, the most recent being in late FY 2013. In FY 2015, the Task Force prepared a framework for the use of temporary regional debris management sites. If desired by elected officials, the Task Force will further develop the framework. In FY 2016-2017, staff will continue to work with the Task Force to address action items identified in the exercises and forum, as well as support new issues that arise during group discussions. Staff continues to update a list of Resolved Issues of the Task Force. This group will also continue to meet quarterly. BMC staff will continue to provide support to this Task Force and act as project manager for its projects. If additional Urban Area Security Initiatives (UASI) funds are allocated to the Task Force, staff will continue in the role of grant administrator.

Coordination with and Support of Emergency Preparedness Partners:

Staff also supports other regional emergency preparedness planning efforts through membership in the

UAWG and several of its other subcommittees, including Emergency Management and Recovery. Staff regularly attends the UAWG and subcommittee meetings to provide a transportation perspective on emergency preparedness planning.

PRODUCTS/MILESTONES	SCHEDULE
Committee meeting minutes	Throughout Fiscal Year
Address issues identified in the tabletop exercise focused on the transportation aspects of evacuation and other issues raised at T&PW meetings	Throughout Fiscal Year
Address issues identified in Disaster Debris Tabletop Exercises and other issues raised at Disaster Debris Planning Task Force meetings	Throughout Fiscal Year
Support the UAWG and its subcommittees as needed	Throughout Fiscal Year

**FY 2016 BUDGET:**                      **\$95,000**

**FY 2017 ESTIMATED BUDGET:**   **\$95,000**

**TASK:                   TRANSPORTATION EQUITY PLANNING**

**PURPOSE:**       To ensure equitable decision-making in the regional transportation planning process.

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During Fiscal Year (FY) 2015, staff completed draft documentation of Title VI compliance with the general and MPO-specific requirements specified in the FTA's *Circular 4702.1B: Title VI Requirements and Guidelines for Federal Transit Administration Recipient*. In order to do, staff completed updates for both the *Public Involvement Plan*, and *Limited English Proficiency Plan*, among other tasks. The document serves to demonstrate Title VI compliance as subrecipients of FHWA and MDOT in addition to FTA.

Staff also continued activities to meet the requirements of *Circular 4703.1: Environmental Justice Policy Guidance for Federal Transit Administration Recipients*. Staff continued to engage local jurisdictions and regional stakeholders to field check the Vulnerable Population Index (VPI) data/maps, and to better understand possible use cases for the tool in the region. Based on the feedback collected, staff refined specifications for print media, and developed the specifications of a web-based VPI tool for use across the region.

In FY 2016/2017, staff will work with FTA and MDOT to establish reporting periods for Title VI compliance, and submit documentation when/as appropriate. Staff will refine as needed (or as requested) components of the Title VI program. For example, the DBE target participation goal is reviewed / revised each fiscal year. Staff will enhance the procedure used to track/report Title VI planning activities, to include program milestones.

In addition staff will update the VPI datasets based on American Community Survey for 2015, add functionalities to the web-based VPI service if needed, and use the VPI data and other datasets to develop/refine methods to evaluate the benefits and burdens associated with the TIP and the LRTP. To support the determination of benefits and burdens, staff will research methods/performance measures specified in MAP-21, in addition to those in development/use in other MPO evaluations.

Also, staff will evaluate internal policies (and other MPO policies) associated with the Americans with Disabilities Act (ADA), and refine as needed to both be compliant and demonstrate compliance. Staff will review ADA, and continue to review all other activities associated with equitable transportation planning, to determine, if appropriate, how to and when to coordinate/deliver targeted training to BMC staff, member jurisdiction staff, stakeholders and or the public.

And staff will continue to make sure all elements of the metropolitan planning process in the Baltimore region are undertaken in the most equitable fashion.

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<b>PRODUCTS/MILESTONES</b>	<b>SCHEDULE</b>
Review DBE Target Participation Goal	2 <sup>nd</sup> Quarter, FY 2016, 2017
Determine Expanded Reporting Procedure	1 <sup>st</sup> Quarter, FY 2016
Develop Title VI Annual Report	2 <sup>nd</sup> Quarter, FY 2016, 2017
Develop Methods to Evaluate Benefits and Burdens	3 <sup>rd</sup> Quarter, FY 2016
Evaluate Benefits and Burdens for L RTP, TIP	3 <sup>rd</sup> Quarter, FY 2017
Review ADA Policies	4 <sup>th</sup> Quarter, FY 2016
Review Staff Training, Determine Needs	1 <sup>st</sup> Quarter, FY 2017

**FY 2016 BUDGET:**                      **\$85,000**

**FY 2017 ESTIMATED BUDGET:**   **\$85,000**

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## **DATA DEVELOPMENT AND MODEL ENHANCEMENTS**

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**PROJECT: DATA COLLECTION (INCLUDES THREE TASKS)**

**TASK: DEVELOPMENT MONITORING**

**PURPOSE:** To track new land development patterns in the region by type (residential, non-residential, mixed-use etc.), location, and timing. Tracking development activity is important to the transportation planning process to determine the placement of household and employment growth and associated impacts and demands on the region's transportation network. Ongoing contact with state and local agencies provides data needed for this activity.

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During Fiscal Year (FY) 2015, Baltimore Metropolitan Council (BMC) staff continued to collect and process building permits from each of the local jurisdictions, bringing them into one common system. The *Building Permit Data System (BPDS)* at the BMC is the source for various products and services including reports and analyses of regional trends (supported by maps and charts highlighting notable development activity, as well as a comparison with the national trend during the reporting period) and BPDS Online, which allows users to develop their own queries and search the building permit files online through subscription. In addition, BMC staff introduced the Building Permit Data System Quick Viewer, which is a free online mapping product that allows the user to view the location of selected building permits on a map. BMC staff also made formal presentations on development monitoring activities to the Technical Committee and to the Baltimore Regional Transportation Board.

In FY 2016-2017, staff will prepare monthly and quarterly reports of plans for new residential and non-residential development. Staff will continue the production of semi-annual reports on "green" construction activity. "Green" refers to the Addition/Alteration/Repair permit category that contains features directed toward energy conservation. Staff will compile a list of state and local incentives that impact residential development patterns and trends. There will also be a report on residential hot spots, detailing which residential developments in the region are permitting the most units. Additionally, there will be an analysis of building permit activity by water and sewer service areas and priority funding areas.

**FY 2016 Development Monitoring Products/Milestones and Schedule:**

PRODUCTS/MILESTONES	SCHEDULE
Reports on residential/non-residential development plans	Throughout Fiscal Year
Reports on "green" construction activity	1 <sup>st</sup> Half and 2 <sup>nd</sup> Half
Report on residential hot spots	2 <sup>nd</sup> Half
Analyses/Maps of residential building permit activity by water and sewer service areas and Priority Funding Areas	2 <sup>nd</sup> Half

**FY 2016 BUDGET: \$215,000**

**FY 2017 Development Monitoring Products/Milestones and Schedule:**

PRODUCTS/MILESTONES	SCHEDULE
Reports on residential/non-residential development plans	Throughout Fiscal Year
Reports on “green” construction activity	1 <sup>st</sup> Half and 2 <sup>nd</sup> Half
Compile list of state and local incentives that impact residential development patterns/trends	2 <sup>nd</sup> Half
Report on residential hot spots	2 <sup>nd</sup> Half
Analyses/Maps of residential building permit activity by water and sewer service areas and Priority Funding Areas	2 <sup>nd</sup> Half

**FY 2017 ESTIMATED BUDGET: \$215,000**

**TASK:            MONITORING SYSTEM PERFORMANCE AND RELIABILITY**

**PURPOSE:**        To monitor travel conditions throughout the Baltimore region for a multitude of planning needs such as inputs to the regional travel demand model, air quality data, the Congestion Management Process (CMP) and the long-range transportation plan (LRTP) process.

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During Fiscal Year (FY) 2015, staff completed activities in four areas:

Traffic Counts: The Baltimore Metropolitan Council (BMC) began a multi-year contract with a vendor to perform all forms of traffic counts. Staff explored and developed a pedestrian and bicycle count Geographic Information Systems (GIS) data sharing method within the ArcGIS online platform. Work continued in collecting and tabulating traffic count data from various sources loading it into an online traffic count map and database for use in the travel demand model.

Speed and Travel Time Collection: Quarterly Congestion Analysis Reports were produced throughout FY 2015 showing the top 10 bottlenecks in the region making use of vehicle probe data from INRIX. This third party probe data has been made available by a grant from the I-95 Corridor Coalition through the University of Maryland's Center for Advanced Transportation Technology (CATT) Lab to monitor conditions on the region's freeways and arterials and incorporating it into the regional CMP. In-house Global Positioning System (GPS) data collection was used to monitor regional arterials where probe data coverage was not available.

Activity Centers: During the spring months of March to May, consultants collected occupancy and classification data for BMC including transit bus passenger numbers at 38 locations in the Baltimore Central Business District. This is the continuation of the regional activity data collection program that has been ongoing since 1987 that includes the twelve activity centers that are counted on a three-year cycle. (The other two cycles include the following activity centers: Bel Air, Thurgood Marshall Baltimore Washington (BWI) International Airport, Westminster, White Marsh, and Woodlawn/Social Security); Annapolis, Columbia, Fort Meade/NSA, Hunt Valley, Owings Mills, and Towson.

Trip Generation: BMC performed research on new potential Origin Destination Survey Data technologies (cellular apps, AirSage, Tom Tom and other commercial products) to support projects such as continuous Household Travel Surveys and to potentially assist the Maryland Transit Administration (MTA) with On-Board and State Highway Administration (SHA) with Add-On.

In FY 2016-2017, staff will engage in these four areas:

Traffic Counts: The current vendor will perform volume counts at the scheduled screenline locations as part of BMC's regular 3-year cycle in 2016. Additional count locations not on the current cycle may be added at the request of the local jurisdictions. This will also complete the current multiyear contract and a new Request for proposals (RFP) will be issued in FY2017. The interactive online traffic count map will be maintained in ArcGIS Online. BMC will also continue exploring its non-vehicular count program in coordination with the Technical Committee, the Bicycle and Pedestrian Advisory Group (BPAG) and SHA.

Speed and Travel Time Collection: Quarterly Congestion Analysis Reports showing the top ten bottlenecks in the region will continue to be produced. New advanced performance measures will be included in accordance with Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) guidelines when they become finalized. In house GPS data collection will be available for localized arterial studies by request of BRTB

members or for any coverage gaps in the Vehicle Probe Project (VPP) Suite.

Activity Centers: Fiscal Year 2016 begins the typical three-year cycle of data collection during the morning peak travel time done during the spring months at 107 total locations of all twelve activity centers. During the spring months of March to May, the selected vendor will conduct occupancy and classification data including transit bus passengers' numbers at the activity centers scheduled in the three year collection cycle. The FY 2016 begins a new cycle. The locations are Bel Air, BWI International Airport, Westminster, White Marsh, and Woodlawn/Social Security). In FY 2017 data collection will occur in the Annapolis, Columbia, Fort Meade/NSA, Hunt Valley, Owings Mills, and Towson activity centers. A new RFP will be issued in FY2017 once the current data collection contract has expired. At the request of the BRTB, BMC staff will explore studies on special activity centers such as ports, airports or hospitals.

Trip Generation: BMC will continue to research new potential Origin Destination Survey Data technologies to support projects such as continuous Household Travel Surveys and to potentially assist the MTA with On-Board and SHA with an Add-On.

PRODUCTS/MILESTONES	SCHEDULE
Highway and arterial traffic counts, vehicle occupancy and vehicle mix data	Throughout Fiscal Year
Travel data products to support the CMP	Throughout Fiscal Year
Update Online Traffic Count Map	FY 2016 and FY 2017, 2 <sup>nd</sup> Half
Presentation and documentation materials	Throughout Fiscal Year
Activity Center Vehicle Occupancy/Classification summary	FY 2016 and FY 2017, 2 <sup>nd</sup> Half
Pedestrian and Bicycle GIS database and sharing process	FY 2016 and FY 2017, 2 <sup>nd</sup> Half

**FY 2016 BUDGET:**                      **\$170,000**

**FY 2017 ESTIMATED BUDGET:**   **\$170,000**

**TASK:            DATABASES AND TRAVEL SURVEYS**

**PURPOSE:**     To review, analyze and develop relevant transportation planning products from data released by agencies relevant agencies such as the U.S. Department of Commerce and the U.S. Census Bureau; and to evaluate the uses, feasibility, and timing of a future household travel survey.

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During Fiscal Year (FY) 2015, staff completed the following:

Databases – Staff updated the system of Community Profiles using population and travel behavior data from the 2012-2013 American Community Survey (ACS) and the 2010 Master Establishment File (MEF). Staff also enhanced the way demographic data is available online with expanded web maps and data profiles. In addition, staff analyzed the usability and reliability of 5-year ACS products: Staff conducted research into the new planning low-response rate data and geodatabases with block level Geographic Information Systems (GIS) data. Staff also reviewed the Vulnerable Population Index, in which data is obtained from the Decennial Census or the ACS to determine the regional concentration for each of seven vulnerable populations. Finally, staff performed demographic analysis for the creation of new Activity Centers.

Travel Surveys – Staff performed a literature search on the use of smartphones and sensor technologies to automate the collection of travel data, as well as hosting a meeting with Delaware Department of Transportation to discuss their travel survey, including survey recruitment strategies such as web-based and smartphone technologies. Staff also began to interview other metropolitan planning organizations with recent experience fielding a household travel survey. Subjects of discussion included participant fatigue, which is evidenced by decreasing response rates and complete rates; the use of technology to mitigate these problems; and the dangers of survey bias whether employing traditional survey media and recruitment or the new technologies.

In FY 2016-2017, staff will work on these activities:

Staff will develop a plan to refine, or expand, the system of Community Profiles. New content may include economic indicators. New geographies may include Regional planning Districts (RPD), corridors and activity centers. A timetable for implementation will be determined after an assessment of staff resources. Data from the ACS will be also compiled and analyzed to assist in Environmental Justice equity analyses as needed.

As part of a re-evaluation of data collection at the agency, Baltimore Metropolitan Council (BMC) staff will continue to analyze the uses, feasibility, and timing of a future household travel survey. Staff will also consider alternate surveys and research methods that could supplement or replace the household travel survey and will develop a survey plan. Research methods will include the use of Global Positioning System (GPS) and other smart phone applications to reduce survey burden on participants, increase accuracy, and improve the efficiency of survey processing.

In particular, staff will compare the costs and benefits of alternate surveys and research methods, and present the results in a technical memorandum. Staff will also identify partners for travel surveys such as health professionals researching “active transportation”. Another sub-task will be to assess alternative recruitment strategies. Other practitioners report lower rates of travel survey participation, suggesting the need to consider other means of reaching the public. For example, the Survey of the American Consumer, conducted annually by Gfk MRI, represents an established channel to a carefully selected stratified sample.

Finally, staff will continue to interview other metropolitan planning organizations (MPOs) or agencies with recent experience fielding a household travel survey.

PRODUCTS/MILESTONES	SCHEDULE
Technical memorandum on costs and benefits of alternate surveys and research methods; assess alternate recruitment strategies.	FY 2016, 2 <sup>nd</sup> Half
Interview other MPOs or agencies on recent HTS experience.	Throughout FY 2016
Develop a plan for Community Profiles.	FY 2017, 1 <sup>st</sup> Half
Identify travel survey partners.	Throughout FY 2017

**FY 2016 BUDGET:**                      **\$130,000**

**FY 2017 ESTIMATED BUDGET:**   **\$130,000**

**PROJECT: DATA DEVELOPMENT AND ANALYSIS (INCLUDES FOUR TASKS)**

**TASK: GIS ACTIVITIES**

**PURPOSE:** To continue to develop and refine the Baltimore Metropolitan Council (BMC) Geographic Information System (GIS) that will allow BMC staff to spatially organize, update, analyze, disseminate, and graphically depict demographic, socio-economic, and travel information.

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During Fiscal Year (FY) 2015 BMC has successfully created a regional address point and centerline layer along with an online data sharing application that allows the local jurisdictions to share addressing data with the state through BMC. Conflation of the regional centerline to improve its accuracy continues, as does coordination with the Maryland Department of Information Technology.

This year BMC leveraged the newest online technology to make maps and data available to the public in innovative ways. GIS data from the Building Permit Database System was made available to the public for the first time via a web application or as a data feed for advanced GIS users. Outreach for *Maximize2040* was aided with the creation of a web application that lets users place a point on a map and add comments about transportation projects.

In FY 2016-2017 work includes:

GIS staff will continue to coordinate with the local jurisdictions and the state to maintain and improve the regional addressing layers. As conflation of the regional layer is completed, BMC will work on validating the data.

BMC will expand the organization's web presence significantly with web mapping applications to assist in public outreach and in the creation of planning and analysis tools that will be available to both professionals and the general public. Web mapping will play a prominent role in creating tools for the public and the local jurisdictions to analyze *Maximize2040* projects.

Work with the Baltimore Regional Geographic Information System Committee (BRGISC) will continue with ongoing coordination of the combined addressing project, advocacy for regional interests at the state level, and by providing networking and training opportunities for GIS staff from our member jurisdictions. BMC will be expanding regional public safety coordination by organizing the adaption of an emergency data sharing platform.

BMC also has a leadership role in the Maryland State Geographic Information Committee (MSGIC) Executive Committee as head of the Regional Caucus. As the interests of BRGISC and the Regional Caucus are similar, there will be opportunities for the work of each committee to inform and enhance the work of the other. BMC plans to reach out to neighboring regional groups to discuss ways to coordinate on GIS and data sharing issues.

BMC staff will provide ongoing GIS maintenance and technical support for various transportation planning activities including analysis for the Long Range Plan, the Transportation Improvement Program, the Opportunity Collaborative, and the Master Establishment File.

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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PRODUCTS/MILESTONES	SCHEDULE
GIS mapping and geospatial analysis for BMC projects	Throughout Fiscal Year
Manage, update, and maintain an enterprise GIS database system	Throughout Fiscal Year
Organize and participate in BRGISC and coordinate regional GIS projects	Throughout Fiscal Year
Participate in MSGIC and other GIS activities in the state and region	Throughout Fiscal Year
Create educational and professional development opportunities for BRGISC members	4th Quarter
Develop new mapping applications and GIS web services	Throughout Fiscal Year

**FY 2016 BUDGET:**                      **\$325,000**

**FY 2017 ESTIMATED BUDGET:**   **\$325,000**

**TASK:            DEMOGRAPHIC AND SOCIOECONOMIC FORECASTING**

**PURPOSE:**     To develop and maintain population, household, and employment forecasts for the Baltimore Metropolitan region. The cooperative forecasts serve as a key input to the regional travel demand forecasting process and the development of the Long Range Transportation Plan. Staff of the local jurisdictions comprise the Cooperative Forecasting Group (CFG) and coordinate the development of their jurisdiction's estimates and projections. Jurisdictional staff utilize local comprehensive plans, adopted zoning maps and regulations, and an inventory of available residential holding capacity to inform their forecast process.

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During Fiscal Year (FY) 2015, the CFG continued to meet on a bi-monthly basis. In August, the CFG completed documentation of forecast methodologies for the Round 8A cooperative forecasts which had been endorsed by the Baltimore Regional Transportation Board (BRTB) on June 24, 2014. Additionally, the CFG reviewed the scheduling of forecast rounds and round updates, evaluated and revised the criteria and list of Regional Activity Centers, supported the Long Range Plan update, continued discussions on bi-regional growth assumptions with the Metropolitan Washington Council of Governments (MWCOG) and Wilmington Area Planning Commission (WILMAPCO), and developed the Round 8B socioeconomic forecast.

In FY 2016-2017, the CFG will continue to meet on a bi-monthly basis. The group will complete the Round 8B socioeconomic forecasts, evaluate the need for updated forecasts on an annual basis, and update the forecasts as necessary. The CFG will begin an update to the Master Establishment File, a key component in the small area employment forecasting process, should a new round of forecasts be recommended. Additionally, the CFG will have a survey and review of the forecasting procedures of other MPOs completed to determine if the methodologies utilized in the practices of other regions may be applicable to our process.

The CFG will continue to monitor the release of Census data that pertains to population, households, and employment, document the proceedings of the Cooperative Forecasting Group meetings, document comparisons between Round 8A and Round 8B long-range population household, and employment forecasts, provide small area residential and employment estimates and forecasts to local jurisdictions on request, continue data compilation, data development, and technical assistance to BMC partners, and coordinate joint meetings to continue discussions on bi-regional growth assumptions with the Metropolitan Washington Council of Governments (MWCOG) and Wilmington Area Planning Commission (WILMAPCO).

FY 2016 Demographic and Socioeconomic Forecasting Products/Milestones and Schedule:

PRODUCTS/MILESTONES	SCHEDULE
Evaluate need for update to forecasts	1 <sup>st</sup> Half
Update forecasts as necessary	2 <sup>nd</sup> Half
Survey and review of forecasting process of comparable MPOs	Throughout Fiscal Year
Monitor and review relevant Census data releases	Throughout Fiscal Year
Document proceedings of the CFG	Throughout Fiscal Year
Provide data to local jurisdictions upon request	Throughout Fiscal Year
Provide data compilation, data development, and technical assistance	Throughout Fiscal Year

**FY 2016 BUDGET:**                      **\$215,000**

FY 2017 Demographic and Socioeconomic Forecasting Products/Milestones and Schedule:

PRODUCTS/MILESTONES	SCHEDULE
Acquire private source dataset for Master Establishment File (MEF) development	1 <sup>st</sup> Half
Evaluate need for update to forecasts	1 <sup>st</sup> Half
Update forecasts as necessary	2 <sup>nd</sup> Half
Initiate development of MEF with review of ES-202 dataset	Throughout Fiscal Year
Monitor and review relevant Census data releases	Throughout Fiscal Year
Document proceedings of the CFG	Throughout Fiscal Year
Provide data to local jurisdictions upon request	Throughout Fiscal Year
Provide data compilation, data development, and technical assistance	Throughout Fiscal Year

**FY 2017 ESTIMATED BUDGET:**    **\$215,000**

**TASK: ANALYSIS OF REGIONAL DATA AND TRENDS**

**PURPOSE:** To identify regional travel trends and related policy issues, using existing Baltimore Metropolitan Council (BMC) datasets and outside resources where available. The results of the analysis will be communicated to local officials and the public.

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During Fiscal Year (FY) 2015 the following activities were completed:

Regional Indicators - The scope of the Regional Indicators task reflects the broad social and economic forces that influence, and are influenced by, the policies and programs of the Baltimore Regional Transportation Board (BRTB). BRTB policy goals and program initiatives are articulated in documents such as *Plan It 2035*, the region's long-range transportation plan.

The Regional Indicators task is an opportunity to re-evaluate and consolidate data collection activity at BMC. It may encompass data on land use and economic development, the environment, the condition of transportation infrastructure, measures of access and mobility, transportation system safety and security, and other data as necessary.

Major sub-tasks are selection, analysis, synthesis, and dissemination of regional indicators.

Staff has worked with subject area specialists at BMC to develop indicators, while also identifying sources of indicators outside the agency and performing subject area literature reviews. For example, staff analyzed articles written by leading researchers and published in peer-reviewed journals on the connections between future demographics and local housing markets. Based on this analysis, data collection efforts will be refined, or expanded, to monitor the trajectory of forecasted trends, as they affect the Baltimore region. Such efforts will build on BMC's well-established building permit database.

Re-evaluation and consolidation of data collection at the agency has continued. After compiling an index of current data sources and coming to agreement on a format for the index, which has to list many different data types, in FY 2014, a database was created for the index, which facilitated reorganization of agency data.

New Transportation Services and Technology Transfer – New transportation services such as Carma (ridesharing) and Hertz 24/7 (car sharing) are redefining driving and car ownership, and are already expanding transportation choices for residents of the region. In addition, they demonstrate the potential of ubiquitous mobile technology and low-cost software, including location apps, messaging services, mobile payment systems, trip planners, scheduling software, and cloud services, to add value to transportation operations.

The goals of the project are twofold: 1) Understand the markets for new transportation services, and 2) Identify applications for the technology, especially in the non-profit sector.

The research results were published in a summary document.

In FY 2016-2017, staff will work on these activities: analyze/synthesize current data; identify set of regional indicators; track the development of mobile technology and low-cost software; meet with members of the

non-profit transportation sector to understand their needs; and produce a State of the Region Report.

PRODUCTS/MILESTONES	SCHEDULE
Analyze/Synthesize current data.	Throughout Fiscal Year
Identify set of regional indicators.	FY 2016, 2 <sup>nd</sup> Half
Track mobile technology and low-cost software, and meet with members of the non-profit transportation sector.	Throughout Fiscal Year
Produce State of the Region Report	FY 2017, 2 <sup>nd</sup> Half

**FY 2016 BUDGET:**                      **\$95,000**

**FY 2017 ESTIMATED BUDGET:**   **\$95,000**

**TASK:            TECHNICAL ANALYSIS IN SUPPORT OF STATE INITIATIVES**

**PURPOSE:**        To provide the modal administrations of the Maryland Department of Transportation (MDOT) special technical assistance using regionally-generated data, development goals, forecasts, as well as regional priorities for transportation planning activities related to the Baltimore region.

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During Fiscal Year (FY) 2015, Baltimore Metropolitan Council (BMC) staff continued providing technical assistance to state agencies. In coordination with MDOT, staff completed the Federal Highway Administration's pilot demonstration grant using the greenhouse gas sketch planning scenario tool, called "Energy and Emissions Reduction Policy Analysis Tool" documenting results and conducting a one-day seminar. Staff analyzed and summarized U.S. Census Bureau data sets in understanding the Nursery Road employment center in Anne Arundel County and travel patterns of residents of Cherry Hill in Baltimore City. Staff used the General Transit Feed Specification (GTFS) to develop 30, 60, and 90-minute travel time buffers for key employment centers, allowing visualization of the location of transit coverage with varying network configurations of frequency and routes. Staff assisted with the successful preparation of two Strategic Highway Research Program 2 (SHRP2) grants, the C20 Freight Demand Modeling and Data Improvement, and the C10 Partnership to Develop an Integrated, Advanced Travel Demand Model and a Fine-Grained, Time-Sensitive Network, which will enhance and improve elements of the Maryland Statewide Travel Model (MSTM) and the continued evolution of regional tools towards disaggregate micro-simulation. Other data requests related to model use and/or summarizing output such as supplemental data for transit oriented development (TOD) performance metrics for TOD pilot sites (Aberdeen and Owings Mills) were provided.

In FY 2016, staff assistance will continue with supporting the C10 and C20 grants related to enhancing the MSTM. The statewide supply chain freight model will be based on transferring Florida DOT's freight model structure and parameter values in simulating long distance freight movement to Maryland. Using the observed/revealed freight model system database, the supply chain model will be calibrated and validated. Coordinating with the Freight Movement Task Force, the State Highway Administration (SHA) and staff will initiate model scenario sensitivity testing prior to acceptance. The C20 grant will conclude with the review and acceptance of a freight model system plan and final model documentation.

The integration of advanced travel demand models and time-sensitive networks is a major effort requiring significant assistance/coordination between SHA and BMC staffs in order to micro-simulate the entire travel choices of individuals within households. With the completion of a data hub and multi-scale Dynamic Traffic Assignment (DTA) model, staff will assist with the integration of the software package DTALite with Search Information, Learning, and Knowledge (SILK) in the travel decision-making process method. Coordinating with SHA, a corridor integrated model demonstration will be completed analyzing operational scenarios in understanding model sensitivity.

In FY 2017, staff will assist with the completion of the SHRP2 grants and initiate the transition of these enhanced tools into statewide and regional applications. With completion of the statewide supply chain freight model, staff will assist SHA in integrating the new process within the MSTM model frame work. The integration may require the development of scripts or other software to properly run the model or summarize simulated output. Staff will assist in training and work cooperatively with SHA in an

application/scenario test using the enhanced statewide tool.

The integration of advanced travel demand models and time-sensitive networks will be nearing completion at the end of FY 2017. A model implementation and outreach plan will be developed, reviewed and accepted. This plan will assist SHA and staff in coordinating efforts required to incorporate the integrated model into the agencies processes and promote them to other potential users. The outreach will focus on workshops and training sessions to disseminate products. Final project documentation will be developed summarizing efforts and findings.

In FY 2016 and FY 2017, staff, as requested, will continue to offer technical assistance supporting 1) data collection efforts, 2) tabulation, analysis, and summarizing observed/revealed databases, 3) applying technical tools in simulating current/forecasted household travel behavior choices, and 4) analyzing transportation system connectivity and effects on employment/household travel accessibility. The assistance will be summarized in charts, graphs, tables, and maps.

PRODUCTS/MILESTONES	SCHEDULE
Freight Model Improvements (C20): 1) Memo outlining the proposed structures, model specifications and calibration procedures. Includes mathematical formulation and estimated parameters. 2) Memo describing model validation plan, including data, procedure, criteria, targets and results of model calibration and validation 3) Deliver a fully validated freight modeling system 4) On-site training session with case work examples 5) Delivery documentation products: model technical report and model user's manual	3 <sup>rd</sup> Quarter – 2016  4 <sup>th</sup> Quarter – 2016  4 <sup>th</sup> Quarter – 2016 1 <sup>st</sup> Quarter – 2017 1 <sup>st</sup> Quarter – 2017
ABM/DTA Integration (C10): 1) InSite-DTALite Integration 2) Demonstration/Application 3) Model Implementation/Outreach Plan 4) Project Final Report	3 <sup>rd</sup> Quarter – 2016 4 <sup>th</sup> Quarter – 2016 2 <sup>nd</sup> Quarter – 2017 3 <sup>rd</sup> Quarter - 2017
State Data Collection Support/Meetings, Memos	On Going
Data Analysis/Memos, Charts/Graphs/Tabulations, Documentation	On Going

**FY 2016 BUDGET:**                      **\$200,000**

**FY 2017 ESTIMATED BUDGET:**   **\$200,000**

**PROJECT:      REGION'S TRAVEL SIMULATION TOOLS (INCLUDES TWO TASKS)**

**TASK:          CURRENT SIMULATION TOOLS**

**PURPOSE:**      Updating, maintaining, incorporating data and/or estimating/modifying the region's travel simulation tools/methods for application in achieving a better understanding of household travel demand and motor vehicle emissions.

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During Fiscal Year (FY) 2015, Baltimore Metropolitan Council (BMC) staff continued to support the development an application of the region's Trip Based Model (TBM) – Version 4.4 – and other technical tools. The network and model script were updated to incorporate 2010 Census geography and the latest Cooperative Forecasts (Round 8A) for a 2010 model validation. The TBM supported *Maximize2040* technical scoring for state and locally submitted candidate projects and summarized simulated 2040 household travel under an Existing and Committed transportation network. BMC staff provided technical assistance to support local corridor and Bus Rapid Transit analysis in Harford and Howard Counties, respectively, and an analysis of U.S. Census datasets for Carroll County. The Energy and Emissions Reduction Policy Analysis (EERPAT) Tool was used in support of the regional greenhouse gas initiative "How Far Can We Get," testing regional policies individually and in combination with varying levels of participation and effectiveness. An analysis of employment data and transit network accessibility was completed in support of the Opportunity Collaborative's transit investigation to connect the work force with employment opportunities.

In FY 2016, staff will continue the maintenance of the aggregate TBM focusing on the representative transportation networks. TBM outputs and interim outputs from the activity based model (ABM) called Initiative to Simulate Individual Travel Events (InSITE) will be analyzed to ensure overall consistency at an aggregate level. The region's transition to an Activity Based Model (ABM) will enhance the Washington region portion of transportation network and the C10 ABM and Dynamic Traffic Assignment integration is proposes creating a multi-scale transportation network data hub. This hub will change the database structure, enabling the linkage of networks with national and state-collected databases such as probe vehicle, counts, and facility physical attributes. The region's demographic model, POPGen, was enhanced with multi-level geographic margin controls as part of the ABM transition. Staff will review existing and potential new margin controls and develop demographic sub-modals for estimating model variables at the Transportation Analysis Zone, Regional Planning District, or jurisdictional level. Staff will engage the Cooperative Forecasting Group in evaluating multi-level marginal controls and summarized POPGen output for other potential uses.

Staff will also apply the validated TBM in supporting the development of *Maximize2040*. Regional performance measures and other key travel characteristics will be summarized for a 2040 preferred network alternative and potentially other proposed alternative networks. A technical analysis combining TBM-simulated travel with MOVES2014 motor vehicle emissions factors will be used to determine *Maximize2040*'s conformity with federal transportation air quality requirements. An Environmental Justice analysis documenting any adverse impacts on the region's population groups will be performed for the planned *Maximize2040* transportation network.

In FY 2016-2017, BMC staff will analyze national and regional databases of observed/revealed travel behavior, household and population demographics, and employment characteristics. An initial analysis, summarized in graphs, charts, maps and tables, will be completed for each jurisdiction and presented to

committees. With committee input, the analysis will transition to a corridor focus and be used to develop an understanding of current travel, demographic and work force/employment conditions and trends. With a greater understanding of current corridor travel and with assistance of the Technical Committee, staff will identify a demonstration corridor for further technical analysis, potentially leading to the development of corridor purpose and needs identification.

In FY 2017, staff will initiate a parallel modeling process comparing TBM and ABM simulated travel outputs. The comparison will initially focus on general travel characteristics, such as total trips, choice of mode, and total Vehicle Miles of Travel. The analyses will transition to more disaggregate comparisons, documenting the simulated variation in household travel captured within an ABM framework. The concluding phase will highlight the enhanced analysis capabilities available with the adoption of the ABM (InSITE). The documentation of the analysis will demonstrate and build confidence with expanded capabilities of the advanced model in simulating household travel behavior in response to a wide variety of policies and evolving demographic shifts. The parallel process is expected to continue for an 18 month period leading to adoption of the InSITE model in FY 2018.

Staff will also assist in calculating regional performance measures. The technical analysis will compile and analyze available regional data, tracking annual progress towards established performance measure targets. Identified performance measures and targets will be reviewed and revised as additional federal agency MAP-21 guidance is promulgated.

PRODUCTS/MILESTONES	SCHEDULE
Maintenance of Aggregate Trip Based Model/Memos, Scripts, Input Datasets	On Going
Support State/Local Model Applications/Emails, Meetings, Phone Support	On Going
Long-Range Plan Technical Support/Memos, Spreadsheets, Networks, Documentation	First Half – FY 2016
Regional Corridor Support/Memos, Meeting Notes, Networks, Documentation	Throughout FY 2017
TBM and ABM comparison – Memos, Spreadsheets, Graphs, and Charts	Throughout FY 2017

**FY 2016 BUDGET:**                    **\$315,000**

**FY 2017 ESTIMATED BUDGET:** **\$315,000**

**TASK:           EXPANDING THE REGION'S TOOLSET**

**PURPOSE:**       To develop and investigate emerging travel simulation tools to further the region's ability to understand regional travel and test emerging/evolving traffic operation/behavior policies.

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During Fiscal Year (FY) 2015, BMC staff aggressively continued the transition and enhancement of the region's simulation tools towards full disaggregation of household and non-household travel. Significant progress was made in the second year of the three year contract in the development of the advanced Activity-Based Model (ABM), called the Initiative to Simulate Individual Travel Events (InSITE). The major effort was related to the estimation of the short and long term person choice models (auto/EZPass/transit pass ownership and usual place of work) and the numerous models used in simulating travel behavior (daily activity patterns, destination choice, time of day, tour/trip mode choice). Staff participated in a consultant-lead workshop and used the knowledge gained to estimate four discrete choice models. Other initiatives focused on required model application elements. The software developers of POPGen were added to the ABM consultant team to enhance the synthetic household/population model, allowing for margin controls at multi-level geography. The development of the TourCast software code incorporating the logit estimated model parameter values and design plan framework was completed. Model calibration and validation were initiated using the functioning modeling software for a 2010 base year. Staff, working in partnership with State Highway Administration (SHA), successfully developed two SHRP2 grant applications to implement multi-year projects: 1) statewide and regional freight model improvements (C20) and 2) integrating state and regional travel behavior models with Dynamic Traffic Assignment (DTA) (C10). Staff and consultants used the knowledge gained from the November 2014 freight model workshop to procure data and compile a calibration database. The customized model software for both the statewide supply chain freight and the urban freight tour-based commercial vehicle models was initiated. For the C10 project, BMC and SHA staff, as well as the consultant team initiated model integration with the completion of a statewide and regional data hub and the development of a multi-scale DTA model. Using the preliminary InSITE model, integration between simulated household travel demand behavior and transportation network supply route choice was begun.

In FY 2016, staff will conclude the transition to the ABM. Final InSITE model calibration and validation will be completed and documented. Incorporation of other non-household travel models (truck, air passenger, and through trips) within the TourCast software will be developed. An investigation of the methods and parameters used in highway loading will be required in the completion of network model conversion at the macro level. With application software and the calibrated/validated model, a series of model sensitivity tests will be performed, initially evaluating model response to broad demographic shifts in intensity and location and network capacity alterations and management policies.

Staff will also continue the SHRP2 grants. The urban tour-based commercial vehicle model (C20) will be calibrated and validated using the observed data and then documented. BMC and SHA, working cooperatively with the Freight Movement Task Force, will initiate a series of sensitivity tests of the statewide supply chain and urban tour-based commercial vehicle model. The sensitivity scenarios will be designed to judge model capabilities in capturing regional freight policies leading to future policy testing and analysis. A multi-year freight model system plan outlining data collection and procurement, observed model database development, and freight model enhancements highlighting new modeling methods will be

developed. The C10 exploratory research grant will continue the completion of integrating the InSITE demand model with a fine-grain, time-sensitive network. Regional and sub-corridor demonstration projects will be initiated using the Maryland Statewide Travel Model-based DTA integration and the full-fledged InSITE model documenting model capabilities, outcomes, and simulated person level travel behavior responses to policy responses.

Staff will prepare for a working simulation model and to host training opportunities on model theories and use. Staff will look to combine the household and freight models within one modeling framework, ensuring sequential steps and integration and communication between the two developed models. Staff will initiate the development of model output summarization routines that uniformly aggregate, tabulate, and summarize model inputs and outputs to provide the analyst with useful information.

In FY 2017, BMC will have accepted the InSITE and urban tour-based commercial vehicle model and will continue testing and documenting model capabilities. As staff becomes more versed with model function, a series of workshops engaging local and state partners will be conducted on the use of the model and interpretation of model outputs.

BMC will also assist SHA on the C10 model integration with the development of an implementation and outreach plan. The plan will provide a strategy to engage policy planners in providing technical analysis of regional simulations. BMC and SHA will initiate a technical model policy guide. The guide will identify the statewide and regional simulation tools used to capture both long and short distance household travel, freight supply chain, urban commercial vehicle movement and mesoscopic vehicle simulation. The guide will contain a cross between state and regional tools and policy questions. Coordination and cooperation in the guide development will ensure the application of most appropriate state and regional tool in supporting the decision making process.

BMC will initiate a task to identify need and application of microsimulation tools to support traffic operational engineering projects. Staff understanding and capability to support such analysis will be examined and opportunities to expand staff technical capability through trainings will be explored.

PRODUCTS/MILESTONES	SCHEDULE
Activity Based Model: 1) Model Application and Software Report 2) Model Sensitivity Memo 3) Peer Review Model 4) Update to Network Models Memo 5) Trainings and Final Model Documentation Report	1st Quarter 2016 2nd Quarter 2016 3rd Quarter 2016 3rd Quarter 2016 4th Quarter 2016
InSITE: 1) Deployment of Activity Based Model in Planning Process 2) Organize Outreach Training for Local Model Users/Consults	Throughout FY 2017 Late FY 2017
Document research on application of microsimulation tool to support traffic operational engineering projects	Late FY 2017

**FY 2016 BUDGET:** \$290,000

**FY 2017 ESTIMATED BUDGET:** \$290,000

## **SHORT-RANGE TRANSPORTATION PLANNING**

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**PROJECT:      TRANSPORTATION IMPROVEMENT PROGRAM**

**PURPOSE:**      To assemble a comprehensive listing of requests for federal funds and regionally significant projects, in support of state and local transportation investments planned over the next four-year period. Coordinate the Baltimore Regional Transportation Board (BRTB) Transportation Improvement Program (TIP) process to ensure member transportation projects fulfill all related federal requirements.

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During Fiscal Year (FY) 2015, development of a web-based platform continued and was tested by staff. This platform, when fully tested, will allow jurisdictions and agencies to submit, view and edit their TIP projects online, including amendments. The software can also provide the public an opportunity to review and comment on the TIP projects online in a user-friendly format. During FY 2015, development of the new web-based online TIP system progressed through the testing phase and was used to process TIP changes to the 2014 – 2017 TIP. Amendments to the 2014-2017 TIP are reviewed and coordinated with the region's conformity determination as appropriate. In keeping with current surface transportation legislation, a listing of projects with federally obligated funds from the previous year's TIP's annual element is published within ninety (90) days after the end of any given fiscal year. Also, during FY 2015, BRTB members began to prepare the FY 2016-2019 TIP and completed project submittals, the ICG determined exempt/non-exempt status for all projects, and the 30-day review and public meeting took place.

In FY 2016, there is a short window where 2014– 2017 TIP amendments will be considered. Early in FY 2016, the BRTB is scheduled to vote on the FY 2016-2019 TIP and then it will be sent to the federal agencies for final review and approval. The new web-based TIP system has many new tools that will be implemented and shared with the public. Ways to best implement these tools will be explored and incorporated into the TIP process throughout FY 2016 and FY 2017. A listing of projects with federally obligated funds from the previous year's TIP's annual element will be published within ninety (90) days after the end of FY 2016.

A similar process to FY 2016 will take place in FY 2017. Over the two years there will be an analysis of TIP projects and the relationship to performance measures. Additionally, after approval of the FY 2016-2019 TIP, project sponsors will be asked for an evaluation of the new tool to determine ease of use. A similar process will take place with the public once the public tools are fully rolled out. If not completed in FY 2015, efforts to streamline uploading maps for TIP projects will be pursued.

**BALTIMORE REGION UPWP**  
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PRODUCTS/MILESTONES	SCHEDULE
Implement new cloud-based TIP System	Throughout both Fiscal Years
Approval of the FY 2016 – 2019 TIP	1st Quarter of FY 2016
Approval of the FY 2017 – 2020 TIP	1 <sup>st</sup> Quarter of FY 2017
FY 2015 Obligated Listing Development	1st Quarter of FY 2016
FY 2016 Obligated Listing Development	1st Quarter of FY 2017

**FY 2016 BUDGET:**                    **\$95,000**

**FY 2017 ESTIMATED BUDGET:**   **\$95,000**

## **ENVIRONMENTAL PLANNING**

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**TASK: ENVIRONMENTAL PLANNING**

**PURPOSE:** To coordinate and facilitate the continuing relationship between planning for mobile emissions and transportation planning in the Baltimore region. To coordinate with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation as part of the long-range transportation planning process.

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During Fiscal year (FY) 2015 the following activities were completed:

*Maximize2040*: Staff has been coordinating with State Highway Administration (SHA) to learn about their environmental mitigation efforts and climate change vulnerability assessment. Staff participates in Interagency Review Meetings hosted by SHA. Staff is coordinating mapping of environmental and historic resource data layers for the development of the region's long range plan. The *Maximize2040* project submittal form includes an environmental impacts section asking local jurisdictions to perform a visual survey of environmental and cultural resources that may be located near a potential project corridor.

Interagency Consultation Group (ICG): The ICG met seven times to discuss topics such as the Conformity Determination of the FY 2016-2019 TIP and Amended *Plan It 2035*, the Conformity Determination of *Maximize2040*, the development of motor vehicle emission budgets for the 2008 8-hour ozone State Implementation Plan (SIP), the air quality status of the region, air quality requirements of Transportation Improvement Program (TIP) amendments, and updates on the "How Far Can We Get" project. ICG working group meetings were held to address the new MOVES 2014 model and input requirements.

"How Far Can We Get?" Study: Staff completed the last 6 months of an 18-month study, in coordination with Maryland Department of Transportation (MDOT) and Maryland Department of Environment (MDE). The intention behind the study was to develop a better understanding of regional air quality issues and to guide the emission reduction portion of *Maximize2040*.

Air Quality Outreach: In FY 2015, staff continued to support the bi-regional Clean Air Partners (CAP) Program and the work activities associated with the Clean Commute public awareness initiative. Efforts included working with major employers to promote commute alternatives, organizing both inter- and intra-regional conferences, and conducting outreach at local festivals, special events, and Bike to Work Day. Staff continued to publish *Environmental News Briefs*, a periodic e-newsletter that highlights news of transportation-related environmental issues.

CMAQ: Funding has not been made available. Staff has tracked projects that were awarded funding in prior years.

During FY 2016-2017, staff will explore implementation potential for recommendations of the *How Far Can We Get* Oversight Committee. Staff will research technical guidance on climate change adaptation and resiliency and identify transportation-related strategies for climate change resilience from other MPOs.

Staff will coordinate with state and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation, as part of the development of a mitigation discussion in the long range plan. Staff will perform an assessment of submitted long range transportation plans to determine their impact on environmental and cultural resources.

The ICG will meet approximately six times per year and will address issues including air quality conformity of the Plan and TIP. The ICG also provides a forum for discussion of motor vehicle emission budget (MVEB) development for SIPs. At this time, it appears that no SIPs requiring MVEB's will be due from the State to EPA during FY 2016 or FY 2017.

Air Quality Outreach: Staff will continue to support the CAP Program and the work activities associated with the Clean Commute public awareness initiative.

CMAQ: Pending funding availability, staff will coordinate the CMAQ competitive selection process. Staff will track the progress of projects chosen in previous rounds of CMAQ project selection.

PRODUCTS/MILESTONES	SCHEDULE
Support ICG meetings	Approx. Bi-Monthly
Monitor new air quality initiatives, policies, and guidance	Throughout Fiscal Year
Conduct air quality outreach for the entire metropolitan area	Throughout Fiscal Year
Continue coordinating environmental and long range planning	Throughout Fiscal Year
Research changes to environmental requirements in transportation planning as necessary and update/educate committees	Throughout Fiscal Year
Provide staff support and planning for the CMAQ competitive selection process (Pending funding availability)	TBD

**FY 2016 BUDGET:**                      **\$320,000**

**FY 2017 ESTIMATED BUDGET:**   **\$320,000**

**TASK: AIR QUALITY CONFORMITY ANALYSIS**

**PURPOSE:** To conduct a technical and public policy analysis of emissions associated with the Transportation Improvement Program (TIP) and long range plan, *Maximize2040*. To work with state agencies, local jurisdictions, and private stakeholders to develop a coordinated program of emission reduction strategies as an effective means of meeting the National Ambient Air Quality Standards (NAAQS) and reducing traffic congestion.

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Transportation plans and programs are required by the federal Clean Air Act (CAA) to demonstrate that mobile source emissions generated in designated horizon years are less than or equal to the motor vehicle emission budgets established in the State Implementation Plan (SIP). These emission budgets are set for criteria air pollutants for which the region is designated “non-attainment” or “maintenance”. The Baltimore Regional Transportation Board (BRTB) is required to show that implementation of the Plan or TIP will not delay timely attainment of the NAAQS in the Baltimore region.

During Fiscal Year (FY) 2015, staff, in coordination with the Maryland Departments of Environment (MDE) and Transportation (MDOT), developed and evaluated horizon year emissions estimates using the U.S. Environmental Protection Agency (EPA) Motor Vehicle Emissions Simulator (MOVES) model. These emissions estimates are being used for the Conformity Determination of the 2016-2019 TIP and Amended *Plan It 2035*, scheduled for approval by the BRTB at their July 2015 meeting. Also, staff provided technical assistance and coordinated BRTB feedback on the motor vehicle emissions budget development process for the 2008 8-hour ozone SIP.

In FY 2016, staff, in coordination with MDOT and MDE will be conducting the conformity determination of *Maximize2040*, the 2015 long range transportation plan. Additional conformity determinations are conducted every spring when there is a TIP in development, with the conformity analysis occurring in parallel. Working through the Interagency Consultation Group (ICG) process and its members, staff will conduct these conformity determinations using methodologies for 8-hour ozone, fine particulate matter, which have been approved by EPA. Carbon monoxide will be included in the conformity determinations until such time they are no longer required.

Through the ICG Working Group, staff will continue to coordinate with MDE mobile source modeling staff and MDOT to share and verify model inputs and parameters, and to evaluate the interface between the region’s travel demand model and the EPA MOVES model to ensure conformity determinations can be conducted and verified by both Baltimore Metropolitan Council (BMC) and MDE staff.

PRODUCTS/MILESTONES	SCHEDULE
Conduct conformity analysis of <i>Maximize2040</i>	1st & 2nd Quarters FY 2016
Conduct conformity analyses of TIPs	3 <sup>rd</sup> & 4 <sup>th</sup> Quarters
Prepare memorandums on Plan and TIP amendments	Throughout Fiscal Year

**FY 2016 BUDGET:**                **\$105,000**

**FY 2017 ESTIMATED BUDGET:**   **\$105,000**

## **APPENDIX A**

### **FY 2016-2017 BUDGET DETAILS**

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**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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**FY 2016 UPWP BUDGET**

**SOURCES**

	FHWA	FTA	MDOT	LOCAL	TOTAL
Unencumbered Balance	\$520,311	\$113,452			\$633,764
FY 16 Appropriations*	\$3,424,158	\$1,211,407	\$525,000	\$792,216	\$5,952,781
FY 16 Funds Available	\$3,944,469	\$1,324,859	\$525,000	\$792,216	\$6,586,545

**USES**

BMC Staff	\$4,505,000
Consultants	\$745,000
 BMC Total	 \$5,250,000
 City of Annapolis	 \$82,700
Anne Arundel County	\$129,830
Baltimore City	\$166,595
Baltimore County	\$170,660
Carroll County	\$130,815
Harford County	\$397,740
Howard County	\$257,740
 Local Total	 \$1,336,080
 TOTAL USES	 \$6,586,080

\* Projected Appropriations

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**FY 2016 WORK PROGRAM BY TASK & FUND SOURCE**  
**(\$)**

	FHWA	FTA	MDOT	LOCAL	TOTAL
UPWP Management	483,911	162,489	64,000	97,600	808,000
Public Participation & Comm. Outreach	98,819	33,182	16,500	16,500	165,000
Professional Consultant Services	446,181	149,820	74,500	74,500	745,000
Long-Range Planning	77,857	26,143	13,000	13,000	130,000
Congestion Management Process	92,830	31,171	15,500	15,500	155,000
Operations Planning	74,863	25,138	12,500	12,500	125,000
Safety Planning and Analysis	74,863	25,138	12,500	12,500	125,000
Bicycle and Pedestrian Planning	68,305	22,935	8,500	14,310	114,050
Freight Mobility Planning	74,863	25,138	12,500	12,500	125,000
Transit Planning and Ladders of Opportunity	239,560	80,440	22,500	57,500	400,000
Human Service Transportation Coordination	44,918	15,083	7,500	7,500	75,000
Emergency Preparedness Planning	56,896	19,105	9,500	9,500	95,000
Transportation Equity Planning	50,907	17,094	8,500	8,500	85,000
Development Monitoring	128,764	43,237	21,500	21,500	215,000
Monitoring System Perform. & Reliability	101,813	34,187	17,000	17,000	170,000
Databases and Travel Surveys	77,857	26,143	13,000	13,000	130,000
GIS Activities	204,285	68,595	32,500	35,720	341,100
Demographic and Socioeconomic Forecasting	348,191	116,917	21,500	94,777	581,385
Analysis of Regional Data and Trends	56,896	19,105	9,500	9,500	95,000
Technical Analysis in support of State Initiatives	119,780	40,220	20,000	20,000	200,000
Current Simulation Tools	188,654	63,347	31,500	31,500	315,000
Expanding the Region's Toolset	173,681	58,319	29,000	29,000	290,000
Transportation Improvement Program	72,793	24,443	9,500	14,809	121,545
Environmental Planning	191,648	64,352	32,000	32,000	320,000
Air Quality Conformity Analysis	62,885	21,116	10,500	10,500	105,000
Subarea Analysis	332,390	111,611	0	111,000	555,000
<b>Total</b>	<b>3,944,403</b>	<b>1,324,461</b>	<b>525,000</b>	<b>792,216</b>	<b>6,586,080</b>

The total budget column reflects a combination of funds for BMC tasks as described throughout the main body of the document, as well as funds for local jurisdictions as described in Appendix B.

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**FY 2016 FUNDING BY TASK AND PROJECT SPONSOR**

WORK TASKS	BMC SHARE	ANNA POLIS SHARE	ANNE ARUNDEL COUNTY SHARE	BALTIMORE CITY SHARE	BALTIMORE COUNTY SHARE	CARROLL COUNTY SHARE	HARFORD COUNTY SHARE	HOWARD COUNTY SHARE	TOTAL
UPWP Management	640,000	15,000	25,000	25,000	25,000	28,000	25,000	25,000	\$808,000
Public Part. & Comm. Outreach	165,000								\$165,000
Professional Consultant Services	745,000								\$745,000
Long-Range Planning	130,000								\$130,000
Congestion Management Process	155,000								\$155,000
Operations Planning	125,000								\$125,000
Safety Planning and Analysis	125,000								\$125,000
Bicycle and Pedestrian Planning	85,000	3,810	3,810	3,810	3,810	10,000	3,810		\$114,050
Freight Mobility Planning	125,000								\$125,000
Transit Planning and Ladders of Opportunity	225,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	\$400,000
Human Service Transportation Coordination	75,000								\$75,000
Emergency Preparedness Planning	95,000								\$95,000
Transportation Equity Planning	85,000								\$85,000
Development Monitoring	215,000								\$215,000
Monitoring System Perform. & Reliability	170,000								\$170,000
Databases and Travel Surveys	130,000								\$130,000
GIS Activities	325,000	2,620	2,620	2,620	2,620	3,000	2,620		\$341,100
Demographic and Socioeconomic Forecasting	215,000		37,400	65,000	76,230	28,315	76,230	83,210	\$581,385
Analysis of Regional Data and Trends	95,000								\$95,000
Technical Analysis in support of State/Local Initiatives	200,000								\$200,000
Current Simulation Tools	315,000								\$315,000
Expanding the Region's Toolset	290,000								\$290,000
Transportation Improvement Program	95,000	1,270	1,000	10,165	3,000	1,500	5,080	4,530	\$121,545
Environmental Planning	320,000								\$320,000
Air Quality Conformity Analysis	105,000								\$105,000
Harford County: Subarea Analysis (MD 924)							225,000		\$225,000
Howard County: Subarea Analysis (BRT)								85,000	\$85,000
Regional Subarea Analysis (Bike Map)		35,000	35,000	35,000	35,000	35,000	35,000	35,000	\$245,000
<b>TOTAL</b>	5,250,000	82,700	129,830	166,595	170,660	130,815	397,740	257,740	6,586,080

**FY 2016 SUBAREA ANALYSIS - LOCALS  
PROJECTS & FUND SOURCE**

<b>WORK TASKS</b>	<b>FHWA</b>	<b>FTA</b>	<b>MDOT</b>	<b>LOCAL</b>	<b>TOTAL</b>
<b>Harford County</b> (MD 924 Corridor Study)	\$134,753	\$45,248	\$0	\$45,000	\$225,000
<b>Howard County</b> (BRT Project Development Phase II)	\$50,907	\$17,094	\$0	\$17,000	\$85,000
<b>Regional Subarea</b> (Bicycle Mapping)	\$146,731	\$49,270	\$0	\$49,000	\$245,000
<b>SUBAREA TOTALS</b>	\$332,390	\$111,611	\$0	\$111,000	\$555,000

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**FY 2017 UPWP BUDGET**

**SOURCES**

	FHWA	FTA	MDOT	LOCAL	TOTAL
FY 17 Appropriations*	\$3,424,158	\$1,211,407	\$518,700	\$639,916	\$5,794,181
FY 17 Funds Available	\$3,424,158	\$1,211,407	\$518,700	\$639,916	\$5,794,181

**USES**

BMC Staff	\$4,505,000
Consultants	\$682,000
 BMC Total	 \$5,187,000
 City of Annapolis	 \$22,700
Anne Arundel County	\$69,830
Baltimore City	\$106,595
Baltimore County	\$110,660
Carroll County	\$70,815
Harford County	\$112,740
Howard County	\$112,740
 Local Total	 \$606,080
 TOTAL USES	 \$5,793,080

\* Projected Appropriations

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**FY 2017 WORK PROGRAM BY TASK & FUND SOURCE**  
**(\$)**

	FHWA	FTA	MDOT	LOCAL	TOTAL
UPWP Management	477,528	168,872	64,000	97,600	808,000
Public Participation & Comm. Outreach	97,515	34,485	16,500	16,500	165,000
Professional Consultant Services	403,062	142,538	68,200	68,200	682,000
Long-Range Planning	76,830	27,170	13,000	13,000	130,000
Congestion Management Process	91,605	32,395	15,500	15,500	155,000
Operations Planning	73,875	26,125	12,500	12,500	125,000
Safety Planning and Analysis	73,875	26,125	12,500	12,500	125,000
Bicycle and Pedestrian Planning	67,404	23,836	8,500	14,310	114,050
Freight Mobility Planning	73,875	26,125	12,500	12,500	125,000
Transit Planning and Ladders of Opportunity	132,975	47,025	22,500	22,500	225,000
Human Service Transportation Coordination	44,325	15,675	7,500	7,500	75,000
Emergency Preparedness Planning	56,145	19,855	9,500	9,500	95,000
Transportation Equity Planning	50,235	17,765	8,500	8,500	85,000
Development Monitoring	127,065	44,935	21,500	21,500	215,000
Monitoring System Perform. & Reliability	100,470	35,530	17,000	17,000	170,000
Databases and Travel Surveys	76,830	27,170	13,000	13,000	130,000
GIS Activities	201,590	71,290	32,500	35,720	341,100
Demographic and Socioeconomic Forecasting	343,599	121,509	21,500	94,777	581,385
Analysis of Regional Data and Trends	56,145	19,855	9,500	9,500	95,000
Technical Analysis in support of State Initiatives	118,200	41,800	20,000	20,000	200,000
Current Simulation Tools	186,165	65,835	31,500	31,500	315,000
Expanding the Region's Toolset	171,390	60,610	29,000	29,000	290,000
Transportation Improvement Program	71,833	25,403	9,500	14,809	121,545
Environmental Planning	189,120	66,880	32,000	32,000	320,000
Air Quality Conformity Analysis	62,055	21,945	10,500	10,500	105,000
<b>Total</b>	<b>3,423,710</b>	<b>1,210,754</b>	<b>518,700</b>	<b>639,916</b>	<b>5,793,080</b>

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**FY 2017 FUNDING BY TASK AND PROJECT SPONSOR**

WORK TASKS	BMC SHARE	ANNA POLIS SHARE	ANNE ARUNDEL COUNTY SHARE	BALTIMORE CITY SHARE	BALTIMORE COUNTY SHARE	CARROLL COUNTY SHARE	HARFORD COUNTY SHARE	HOWARD COUNTY SHARE	TOTAL
UPWP Management	640,000	15,000	25,000	25,000	25,000	28,000	25,000	25,000	\$808,000
Public Part. & Comm. Outreach	165,000								\$165,000
Professional Consultant Services	682,000								\$682,000
Long-Range Planning	130,000								\$130,000
Congestion Management Process	155,000								\$155,000
Operations Planning	125,000								\$125,000
Safety Planning and Analysis	125,000								\$125,000
Bicycle and Pedestrian Planning	85,000	3,810	3,810	3,810	3,810	10,000	3,810		\$114,050
Freight Mobility Planning	125,000								\$125,000
Transit Planning and Ladders of Opportunity	225,000								\$225,000
Human Service Transportation Coordination	75,000								\$75,000
Emergency Preparedness Planning	95,000								\$95,000
Transportation Equity Planning	85,000								\$85,000
Development Monitoring	215,000								\$215,000
Monitoring System Perform. & Reliability	170,000								\$170,000
Databases and Travel Surveys	130,000								\$130,000
GIS Activities	325,000	2,620	2,620	2,620	2,620	3,000	2,620		\$341,100
Demographic and Socioeconomic Forecasting	215,000		37,400	65,000	76,230	28,315	76,230	83,210	\$581,385
Analysis of Regional Data and Trends	95,000								\$95,000
Technical Analysis in support of State/Local Initiatives	200,000								\$200,000
Current Simulation Tools	315,000								\$315,000
Expanding the Region's Toolset	290,000								\$290,000
Transportation Improvement Program	95,000	1,270	1,000	10,165	3,000	1,500	5,080	4,530	\$121,545
Environmental Planning	320,000								\$320,000
Air Quality Conformity Analysis	105,000								\$105,000
<b>TOTAL</b>	<b>5,187,000</b>	<b>22,700</b>	<b>69,830</b>	<b>106,595</b>	<b>110,660</b>	<b>70,815</b>	<b>112,740</b>	<b>112,740</b>	<b>5,793,080</b>

## CHART DEPICTING PARTICIPANTS WITH EACH TASK

### FY 2016-2017 WORK PROGRAM PARTICIPANTS

	Baltimore Metropolitan Council	Anne Arundel County	Baltimore County	Baltimore City	Carroll County	Harford County	Howard County	MDOT and Modes	MD Dept. of Planning	MD Dept. of Environment	Public & Private Stakeholders	Consultant Support
UPWP Management	x	x	x	x	x	x	x	x	o			
Public Participation & Community Outreach	x	o	o	o	o	o	o	o	o	o	o	o
Professional Consultant Services	o											x
Long-Range Planning	x	o	o	o	o	o	o	o	o	o	o	o
Congestion Management Process	x								o			
Operations Planning	x								o			
Safety Planning & Analysis	x								o			o
Bicycle & Pedestrian Planning	x	x	x	x	x	x	x	o	o	o	o	o
Freight Mobility Plan	x											o
Transit Planning & Ladders of Opportunity	x	x	x	x	x	x	x	x	o			o
Human Service Transportation Coordination	x								o	o		o
Emergency Preparedness Planning	x								o			
Transportation Equity Planning	x											o
Development Monitoring	x											
Monitoring System Performance & Reliability	x								o			
Databases & Travel Surveys	x								o			
GIS Activities	x	x	x	x	x	x	x	x				
Demographic & Socioeconomic Forecasting	x		x	x	x	x	x	x		o		
Analysis of Regional Data & Trends	x											
Technical Analysis in Support of State Initiatives	x								o			
Current Simulation Tools	x								o	o		
Expanding the Region's Toolset	x								o	o		
Transportation Improvement Program	x	x	x	x	x	x	x	x	o			o
Environmental Planning	x											o
Air Quality Conformity Analysis	x				o				o		o	
Subarea Analysis	o	x	x	x	x	x	x	x				x

x = receives funding

o = helps to coordinate activity

## **APPENDIX B**

### **LOCAL PARTICIPANTS: CORE & SUBAREA PROJECTS**

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**CITY OF ANNAPOLIS**

**ANNE ARUNDEL COUNTY**

**BALTIMORE CITY**

**BALTIMORE COUNTY**

**CARROLL COUNTY**

**HARFORD COUNTY**

**HOWARD COUNTY**

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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**PROJECT: UPWP MANAGEMENT**

**PURPOSE:** This task involves managing, coordinating, and guiding the various technical activities related to the UPWP and the regional transportation planning process. These work efforts are carried out through a variety of means including direct involvement in planning activities and support to the multi-disciplined and multi-agency committees essential to a coordinated process. These activities specifically include management of the current fiscal year work program and budget, preparation of detailed work programs, and preparation of quarterly progress reports.

**FY 2016-2017 PERFORMANCE OBJECTIVES:**

1. Manage involvement of each local member of the BRTB in the local and regional transportation planning process.
2. Prepare quarterly reports and invoices.
3. Prepare future UPWP grant applications and associated contracts in conjunction with all pertinent federal, state, and local agencies.
4. As necessary, participate in seminars, workshops, and short courses designed to develop technical skills and broader perspectives on transportation-related subjects.

PRODUCTS/ MILESTONES	SCHEDULE
Quarterly progress reports, invoices, audit preparation and other financial reports for the FY 2016-2017 UPWP	Throughout Fiscal Year
Budget amendments for FY 2016-2017	As Necessary
Future UPWP submittal by each local BRTB member	2nd Quarter
Completion of formal grant acceptance process for FY 2016-2017	4th Quarter

<b><u>PARTICIPANTS:</u></b> City of Annapolis	\$15,000
Anne Arundel County	\$25,000
Baltimore City	\$25,000
Baltimore County	\$25,000
Carroll County	\$28,000
Harford County	\$25,000
Howard County	\$25,000

**FY 2016 BUDGET:** **\$168,000**

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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**PROJECT: BICYCLE AND PEDESTRIAN PLANNING**

**PURPOSE:** Provide local assistance in integrating bicycle and pedestrian considerations into the overall planning and programming processes of the state, regional and local jurisdictions.

Local jurisdiction members of the BRTB will assist the Bicycle and Pedestrian Advisory Group in the identification of appropriate opportunities to integrate bicycle and pedestrian travel options within a regional framework. The members will examine opportunities to incorporate bicycle and pedestrian uses along local roads, greenways and other non-motorized corridors. Promotional and educational efforts will also be used to increase awareness for bicycle and pedestrian opportunities and to promote safety and accessibility for non-motorized travelers, including those with disabilities.

**FY 2016-2017 PERFORMANCE OBJECTIVES:**

1. Support Bicycle and Pedestrian Advisory Group in reviewing regional opportunities, monitoring regional progress, and sharing best practices and lessons learned.
2. Ensure that adequate pedestrian and bicycle accommodations are included in proposed TIP projects, and that pedestrian and bicyclist safety is considered in all phases of design.
3. Enhance planning for greenways and trails, including compliance with relevant federal and state design standards.
4. Support regional pedestrian and bicycle safety education programs, and implement coordinated education and enforcement activities at the local level.

PRODUCTS/MILESTONES	SCHEDULE
Joint activity on work programs and other efforts related to the regional bicycle and pedestrian activities	Throughout Fiscal Year
Other studies and analyses to support regional efforts	Throughout Fiscal Year

<b><u>PARTICIPANTS:</u></b> City of Annapolis	\$3,810
Anne Arundel County	\$3,810
Baltimore City	\$3,810
Baltimore County	\$3,810
Carroll County	\$10,000
Harford County	\$3,810

**FY 2016 BUDGET:** **\$29,050**







**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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**PROJECT: TRANSPORTATION IMPROVEMENT PROGRAM**

**PURPOSE:** This project develops the annual component of the Transportation Improvement Program (TIP) for each local member of the BRTB. Additionally, members are responsible for revisions to their component of the TIP and to review and comment on the regional TIP. The task also includes review and comment regarding proposed TIP amendments during the fiscal year.

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**FY 2016-2017 PERFORMANCE OBJECTIVES:**

1. Develop the annual submission of the TIP including assessment of all federally funded projects.
2. Review and comment on Draft TIPs.
3. Revise and correct TIP submissions as needed.
4. Review and comment on all TIP amendments as submitted throughout the fiscal year.

PRODUCTS/MILESTONES	SCHEDULE
Review and comment on proposed TIP amendments	As Needed
Receive training for new TIP web-based software	1 <sup>st</sup> Quarter
Submit local TIP component of 2017-2020 and 2018-2021 documents	3 <sup>rd</sup> Quarter
Revise local TIP component per comments and review draft TIP document	3 <sup>rd</sup> Quarter
Final revisions to annual TIP	4 <sup>th</sup> Quarter

<b>PARTICIPANTS:</b> City of Annapolis	\$1,270
Anne Arundel County	\$1,000
Baltimore City	\$10,165
Baltimore County	\$3,000
Carroll County	\$1,500
Harford County	\$5,080
Howard County	\$4,530

**FY 2016 BUDGET: \$26,545**

**HARFORD COUNTY SUBAREA**

**PROJECT:**        **MD 924 CORRIDOR STUDY**

**PURPOSE:**        Perform traffic and safety analysis on MD Route 924 from MacPhail Road to south of Woodsdale Road. The study will include an existing conditions analysis, a no build analysis, and a future conditions analysis based on land use changes and development along the corridor and scenarios designated to address improved vehicular mobility and safety, improved transit, bicycle and pedestrian facilities including the ability and benefits of providing dedicated bicycle lanes. The study will assess Complete Streets and Livable and Sustainable Communities. The study must include a roadway safety audit, access management to businesses and communities throughout the study area and an origin-destination report. This project is proposed as a FY 2016 project.

**FY 2016 PERFORMANCE OBJECTIVES:**

1.        Provide a comprehensive roadway safety and operations analysis for the MD 924 corridor including a look at transportation options for livable and sustainable communities.
2.        Provide the groundwork for transportation systems management and operation improvements, traffic flow improvements and geometric improvements to transportation facilities along the corridor and vicinity including access management, transit upgrades, bike lanes, signage and pavement markings, traffic control devices, walkability improvements, ADA ramps, lighting, benches, plantings, receptacles and other streetscaping and Complete Streets elements.

PRODUCTS/MILESTONES	SCHEDULE
Existing Conditions Analysis and simulation	1 <sup>st</sup> Quarter
Future Conditions Analysis and simulation	2 <sup>nd</sup> and 3 <sup>rd</sup> Quarter
Final report with recommendations	4 <sup>th</sup> Quarter

**PARTICIPANTS:**        Harford County, BMC, MDOT, Consultant

**FY 2016 BUDGET:**        **\$225,000**

**HOWARD COUNTY SUBAREA**

**PROJECT:**        **BUS RAPID TRANSIT PROJECT DEVELOPMENT, PHASE II**

**PURPOSE:**        Coordinate with MTA, SHA and the Howard County Office of Transportation Services to develop a Bus Rapid Transit preliminary engineering study for Howard County based on MDOT FY 2014-2019 Consolidated Transportation Program funding.

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The FY 2014-2019 MDOT Consolidated Transportation Program programmed \$2.0 million dollars for preliminary engineering for a Howard County Bus Rapid Transit (BRT) System. This project will provide coordination and support in developing preliminary engineering for a Howard County Bus Rapid Transit (BRT) system with connections to the Washington region. A network of feeder buses, BRT stations and potential changes in land uses will be tested in conjunction with the BRT system development. Engineering considerations will be addressed and preliminary costs will be developed.

**FY 2016-2017 PERFORMANCE OBJECTIVES:**

1.    Develop a scope of work for a consultant to advise and work with Howard County and SHA to produce a scope of work for the preliminary engineering of a Howard County BRT system. Provide consultant assistance for regional information and coordination among regional BRT stakeholders both in the Baltimore and Washington regions.
2.    Choose consultant and refine the scope of work.
3.    Review the results and recommendations of the Howard County BRT Study Phase II with SHA and regional BRT stakeholders' both in the Baltimore and Washington regions. Organize a regional coordination BRT meeting to provide coordination with regional stakeholders, SHA, MDOT.
4.    Work with SHA and the consultant to define next steps for Preliminary Engineering Study.
5.    Provide support and input for the development of a scope of services for SHA's BRT preliminary engineering study for Howard County.

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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PRODUCTS/MILESTONES	SCHEDULE
Develop initial scope of work for consultant to support and provide Input for stakeholders to define and develop a preliminary engineering scope of work for SHA BRT project for Howard County.	1st Quarter
Choose consultant and refine scope of work.	2nd Quarter
Organize and coordinate with SHA to develop regional BRT Stakeholders meeting. Define with SHA and consultant assistance next Steps for Preliminary Engineering Study.	2nd and 3rd Quarter
Provide support and review to SHA to develop scope for BRT Preliminary Engineering Study.	4th Quarter

**PARTICIPANTS:** Howard County DPZ, DPW, SHA, CA and other stakeholders

**FY 2016 BUDGET:** \$85,000

## REGIONAL SUBAREA

### **PROJECT: REGIONAL BICYCLE MAP**

**PURPOSE:** The local jurisdictions of the Baltimore region have been working on developing on-street and off-street bicycle facilities over the past decade. Each local jurisdiction has developed some type of map to depict their facilities. Within local jurisdictions, a strong network of facilities has been planned and some implemented. A regional map of these bicycle facilities is needed to provide users a resource for both on-street and off-street travel throughout the region.

Several regional maps focus on specific routes, greenways or trails. However, these specialized maps do not provide a comprehensive map for the Baltimore region. This task is intended to have participation from each jurisdiction to map existing facilities as well as planned and proposed facilities. It will also identify facilities that connect at each jurisdiction's border as well as gaps in continuous linkages between facilities.

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During FY 2016 the Bicycle and Pedestrian Advisory Group will coordinate with the Baltimore Regional Geographic Information Systems Committee (BRGIS) to discuss and come to agreement on data to be collected and applied to a regional, electronic map of all on-road and off-road bicycle facilities in the region. Definitions for what defines a bicycle trail and standards for data coverage and accuracy will be defined and agreed on for the whole region. There will also be a discussion of the frequency of updates and how they will be managed. State agencies such as State Highway Administration and the Department of Natural Resources will be asked to share their data layers as appropriate.

Moving into FY 2107, the standardized data will be collected and the map will become available to members and the public.

PRODUCTS/MILESTONES	SCHEDULE
Inventory of existing data sets	1st Quarter FY 2016
Agree and define standard trail types, coverage, and quality for the region	2rd Quarter FY 2016
Identification of data fields that each jurisdiction should populate and maintain	3rd Quarter FY 2016
Creation of bicycle data to the new standards	3rd Quarter FY 2017
Provide datasets to BMC GIS coordinator for upload	3rd Quarter FY 2017
Create a web mapping application to view the data	4th Quarter FY 2017

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<b><u>PARTICIPANTS:</u></b>	City of Annapolis	\$35,000
	Anne Arundel County	\$35,000
	Baltimore City	\$35,000
	Baltimore County	\$35,000
	Carroll County	\$35,000
	Harford County	\$35,000
	Howard County	\$35,000

<b><u>FY 2016 BUDGET:</u></b>	<b>\$245,000</b>
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## **APPENDIX C**

### **PUBLIC REVIEW PROCESS**

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**FLYER**  
**WEB SITE**  
**PRESS RELEASE**

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OPEN  
FOR  
PUBLIC  
REVIEW



## BUDGET AND WORK PROGRAM

Comments welcome through March 19, 2015

The Baltimore Regional Transportation Board (BRTB) welcomes comments on its draft Budget & Work Program for Fiscal Years 2016 and 2017 through **March 19, 2015**. The BRTB develops this list of regional transportation planning activities every one to two fiscal years. This draft includes funding for planning activities for July 1, 2015 through June 30, 2017.

### What is in the Budget and Work Program?

The Unified Planning Work Program (UPWP) for Transportation Planning details projects, studies and other activities to be completed by BRTB members and staff. The draft UPWP includes both local and region-wide activities, including:

- ✓ Promoting safety for all users of the transportation network, especially pedestrians and bicyclists.
- ✓ Enhancing and maintaining the region's travel demand model, moving from a traditional four-step model to an activity-based model.
- ✓ Initiating a series of tests of the statewide supply chain and urban tour-based commercial vehicle model to better understand regional freight movement.
- ✓ Completing *Maximize2040: A Performance-Based Transportation Plan* and soliciting feedback from members of the public and key stakeholders.
- ✓ Harford County will conduct a study of the MD 924 corridor to gain a comprehensive report on roadway safety and operations.
- ✓ Howard County will continue to evaluate the feasibility of Bus Rapid Transit (BRT) service, specifically along such major routes as US 29 and US 1.

Download the draft Budget & Work Program for FY 2016 - 2017 at [baltometro.org](http://baltometro.org) or view a print copy at the Baltimore Metropolitan Council (address below).

### Share Your Comments

The public is invited to share their thoughts on the proposed regional transportation planning activities from Tuesday, February 17 through Thursday, March 19, 2015.

Send all comments in writing to: The Baltimore Regional Transportation Board, Offices @ McHenry Row, 1500 Whetstone Way, Suite 300, Baltimore, MD 21230; Fax: 410-732-8248; [comments@baltometro.org](mailto:comments@baltometro.org); or Twitter @BaltoMetroCo, @BmoreInvolved, or #BRTBlistens.

Comments may also be shared during the Public Comment Opportunity at the BRTB meetings at 9 a.m. on February 24 and March 24 or, April 28 at 4 p.m. (tentative vote).

For more information, contact Regina Aris at [raris@baltometro.org](mailto:raris@baltometro.org) or 410-732-9572.



Baltimore  
Metropolitan  
Council

## OPEN FOR PUBLIC REVIEW

# Baltimore Regional Transportation Board

## Proposed Budget & Work Program for FY 2016-2017

*The BRTB welcomes your comments on upcoming work priorities and budget*

The Baltimore Regional Transportation Board (BRTB) welcomes comments on its draft Budget & Work Program for Fiscal Years 2016-2017 through **March 19, 2015**.

The BRTB develops this list of regional transportation planning activities every one to two fiscal years. This draft includes funding for planning activities for July 1, 2015 through June 30, 2017.

### What is in the Budget and Work Program?

The Unified Planning Work Program (UPWP) for Transportation Planning details projects, studies and other activities to be completed by [BRTB members](#) and staff.

The draft UPWP includes both local and region-wide activities. Highlights include:

- Promoting safety for all users of the transportation network, especially pedestrians and bicyclists.
- Enhancing and maintaining the region's travel demand model, moving from a traditional four-step model to an activity-based model.
- Initiating a series of sensitivity tests of the statewide supply chain and urban tour-based commercial vehicle model to better understand freight movement in the region.
- Completing *Maximize2040: A Performance-Based Transportation Plan* and soliciting feedback from members of the public and key stakeholders.
- Harford County will conduct a study of the MD 924 corridor from MacPhail Road to south of Singer Road to gain a comprehensive report on roadway safety and operations.
- Howard County will continue to evaluate the feasibility of Bus Rapid Transit (BRT) service in the county, specifically along such major routes as US 29 and US 1.

Download the draft Budget & Work Program for FY 2016-2017 using the link below or visit the Regional Information Center (RIC) at the Baltimore Metropolitan Council (1500 Whetstone Way, Suite 300, Baltimore, MD 21230) to view a print copy.

[Download the draft Budget and Work Program](#)

[View our Frequently Asked Questions](#)

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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**You are invited to share your comments**

The public is invited to share their thoughts on these proposed regional transportation planning activities from **Tuesday, February 17** through **Thursday, March 19, 2015**.

Please send all comments in writing to:

**E-mail:**        [comments@baltometro.org](mailto:comments@baltometro.org)

**Twitter:**        @BaltoMetroCo        @BmoreInvolved        #BRTBlistens

**Mail:**        The Baltimore Regional Transportation Board  
                 Offices @ McHenry Row  
                 1500 Whetstone Way, Suite 300  
                 Baltimore, MD 21230

**Fax:** 410-732-8248

Comments may also be shared during the Public Comment Opportunity at the BRTB meetings at 9 a.m. on Tuesday, February 24 and Tuesday, March 24 or, Tuesday, April 28 at 4 p.m. (tentative vote).

[>> Download a flyer](#)

**For more information:**

Regina Aris, [raris@baltometro.org](mailto:raris@baltometro.org) or 410-732-9572



Baltimore  
Metropolitan  
Council

FOR IMMEDIATE RELEASE

CONTACT: Laura Van Wert, 410-732-9564

## **BALTIMORE REGIONAL TRANSPORTATION BOARD SEEKS PUBLIC COMMENT ON TWO-YEAR DRAFT BUDGET AND WORK PROGRAM**

**BALTIMORE, MD (February 17, 2015)** – The Baltimore Regional Transportation Board (BRTB) seeks public comment on its draft Unified Planning Work Program (UPWP) for Fiscal Years 2016 and 2017 through **Thursday, March 19**. The UPWP is intended to serve as a work program and budget that outlines how a metropolitan planning organization (MPO) will use federal transportation funds.

The UPWP details local and regional transportation projects, studies and other activities. The BRTB, as the Baltimore region's MPO, has the option to produce a UPWP annually or every two years. The BRTB will switch to a two-year UPWP beginning with the proposed FY 2016-2017 document.

The BRTB plans to switch to a two-year UPWP because many of the initiatives – such as determining air quality conformity and monitoring traffic conditions as part of the Congestion Management Process – lend themselves to planning cycles that exceed one year. The BRTB is committed to operating as efficiently as possible while helping the Baltimore region meet federal guidelines.

The proposed UPWP includes a budget in **FY 2016 of \$6,586,080**; and an estimated budget for **FY 2017 of \$5,793,080**. The Federal Highway Administration and the Federal Transit Administration provide funding that would require a 20 percent match from the Maryland Department of Transportation (MDOT) or from BRTB member jurisdictions.

A significant portion of proposed funding for FY 2016 is scheduled to go toward the completion and development of *Maximize2040: A Performance-Based Transportation Plan*, the next long-range transportation plan for the Baltimore region. Funding also will go toward: upgrading analytical tools and capabilities, preparing the next four-year Transportation Improvement Program (TIP), maintaining a congestion management process, planning for air quality, safety and security issues, and continuing public involvement.

**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

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The BRTB will accept public comments by email at [comments@baltometro.org](mailto:comments@baltometro.org); by fax at [410-732-8248](tel:410-732-8248); on Twitter [@BaltoMetroCo](https://twitter.com/BaltoMetroCo) and [@bmoreinvolved](https://twitter.com/bmoreinvolved), using the hashtag #BRTBlistens; or by mail at:

The Baltimore Regional Transportation Board  
Offices @ McHenry Row  
1500 Whetstone Way, Suite 300  
Baltimore, MD 21230

The BRTB also will accept public comments during its meetings on **Tuesday, February 24** and **Tuesday, March 24** at 9 a.m. or **Tuesday, April 28** at 4 p.m. at the Baltimore Metropolitan Council.

For more information, visit [www.baltometro.org](http://www.baltometro.org) or contact Regina Aris, transportation assistant director and policy planning manager, by email at [ris@baltometro.org](mailto:ris@baltometro.org) or by phone at 410-732-9572.

The BRTB is the federally recognized metropolitan planning organization (MPO) for transportation in the region. The Baltimore Metropolitan Council (BMC) provides the BRTB with technical and staff support.

The BRTB operates its programs and services without regard to race, color, or national origin in accordance with Title VI of the Civil Rights Act of 1964, and other applicable laws. Appropriate services can be provided to qualified individuals with disabilities or those in need of language assistance who submit a request at least seven days prior to a meeting. Call 410-732-0500.

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*The Baltimore Metropolitan Council (BMC) works collaboratively with the chief elected officials in the region to create initiatives to improve the quality of life and economic vitality. BMC, as the Baltimore region's council of governments (COG), hosts the Baltimore Regional Transportation Board (BRTB), the federal metropolitan planning organization (MPO), and supports local government by coordinating efforts in a range of policy areas including emergency preparedness, housing, cooperative purchasing, environmental planning and workforce development.*

*BMC's Board of Directors includes the Baltimore City mayor, Anne Arundel, Baltimore, Carroll, Harford and Howard county executives, a member of the Maryland State Senate, a member of the Maryland House of Delegates and a gubernatorial appointee from the private sector.*

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## **APPENDIX D**

### **ADDITIONAL PLANNING STUDIES**

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**Maryland Department of Transportation - Bus Rapid Transit (BRT): A Guide for Local Jurisdictions to Evaluate the Feasibility of Bus Rapid Transit:** MDOT encourages local jurisdictions and transit operators to carefully consider whether BRT can be an effective solution to their transportation needs. In Fall 2014, MDOT published this guide to assist local governments in evaluating the feasibility of BRT, especially if it is expected that there will be the need for State or federal funding or other resources to successfully implement the service. The guide will provide information on:

- Land use and transit service characteristics supportive of BRT,
- BRT's flexibility and the influence different BRT elements have on system performance,
- Opportunities for phasing BRT elements into service,
- Roles and responsibilities of project partners, and
- Methods for examining BRT feasibility at the corridor and project level.

**Maryland Transit Administration - Commuter Bus Growth and Investment Plan:** The purpose of this study is to look at the current state of the Commuter Bus program and identify opportunities and barriers to future growth of the service. Activities will include base-lining and historical analysis of ridership, locations served, and route planning. Along with a dashboard analysis of current and historical activities, the project team will reach out and meet with all counties that currently have commuter bus service to identify potential areas for future growth, discuss issues, and gain clarity on needs of their unique areas. The project team will also analyze land uses and projected population/employment increases to locate potential future growth areas for service. Combining the historical, anecdotal, and analytical data collected throughout the study, the project team will provide recommendations for the growth and expansion of the Commuter Bus service through the next few decades. This study is funded with state funds and is expected to be completed in FY 2016.

**Maryland Transit Administration - Towson Circulator Feasibility Study:** This study will perform a feasibility study for the potential implementation of a Circulator Transit Service in the Towson area of Baltimore County. The study will document existing transit services and operations, assess transit market needs, develop route alignment and service planning concepts, estimate ridership and operating costs, and identify funding sources. The study area will be roughly bounded by the Baltimore City line to the south, I-695 to the north, Charles St on the west, and Loch Raven Blvd to the east. Connections to existing transit stations will also be explored. This study is funded with state funds and is expected to be completed in FY 2016.

**Maryland Transit Administration - MTA Origin/Destination Survey:** Periodically the MTA undertakes an agency-wide rider survey to collect very important information regarding our rider's habits. The survey will be conducted onboard all of the agency's modes (MARC, Metro, Light Rail, Local Bus, and Commuter Bus). The information collected will allow the agency to identify where their riders are coming from, where they are going to, and begin to understand why they make the transit choices they do. Information collected through the surveys will help steer the agency towards more knowledgeable decisions regarding changes that effect the ridership population. This study is funded with state funds and is expected to be completed in late FY 2016 or early FY 2017.

**State Highway Administration - I-795 Dolfield Blvd & MD 198:** These studies will complete the planning phase in FY 2015. MD 198 is waiting for federal approvals (no planning funding in FY 2015) and has already moved on to engineering.

**SHA - US 50: John Hanson Highway:** A study to investigate options for alleviating congestion on US 50 from MD 70 and MD 2 (North), including the Severn River/Pearl Harbor Memorial Bridge (1.7 miles). The approaches to the Severn River/Pearl Harbor Memorial Bridge experience severe congestion, particularly the eastbound direction during the evening peak period. An Informational Workshop was held on October 23, 2014. The team is currently addressing comments received from the public and is performing various engineering analysis to refine the Recommended Concept, 1B, that was identified in the previous feasibility study.

**Baltimore County Transportation Development Plan:** Baltimore County will update the Transportation Development Plan (TDP). The TDP was last updated in 2008 by KFH Group, Inc. The update in 2016 will also be prepared by KFH Group, Inc. and will be initiated by the end of 2015 (calendar year). Funding for the plan will be split 80 percent Federal funds, 10-percent State funds and 10-percent County funds. The contract for the plan will be through the MTA.

**Carroll County Bicycle-Pedestrian-Greenways Master Plan:** This is a multimodal transportation study that will be conducted over two fiscal years, FY 2015 and FY 2016. The plan will focus on bicycle and pedestrian connections in the county and how they link with greenway, recreational, historic sites and tourism opportunities county-wide.

The first phase of this project is to conduct an inventory of existing trails, sidewalks, parks, and historic sites in the county. An analysis of connectivity of these linear alignments, sites and areas will be completed. Then an analysis will be undertaken to examine gaps in the system and suggest various alternative connections.

The second phase is to look at the implications of creating a county-wide trail and greenway system that produces a more multimodal transportation system, and how this can benefit the county economically and environmentally.

**Harford County Transportation Development Plan:** Harford County will update the Transportation Development Plan (TDP). The TDP was last updated in 2008 by KFH Group, Inc. The update in 2016 will also be prepared by KFH Group, Inc. and will be initiated by the end of 2015 (calendar year). Funding for the plan will be split 80 percent Federal funds, 10-percent State funds and 10-percent County funds. The contract for the plan will be through the MTA.

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## **APPENDIX E**

### **LIST OF ACRONYMS**

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**BALTIMORE REGION UPWP**  
**FY 2016-2017 UNIFIED PLANNING WORK PROGRAM**

**ACRONYMS / ABBREVIATIONS**

3-C	Continuing, Cooperative and Comprehensive
ABM	Activity Based Model
ACS	American Community Survey
ADA	Americans With Disabilities Act
BRTB	Baltimore Regional Transportation Board
BMC	Baltimore Metropolitan Council
BPAG	Bicycle & Pedestrian Advisory Group
BPDS	Building Permit Data System
BRAC	Base Realignment and Closure
B-ROC	Baltimore Regional Operations Coordination Committee
BRT	Bus Rapid Transit
BRTB	Baltimore Regional Transportation Board
CAAA	Clean Air Act Amendments
CATT	Center for Advanced Transportation Technology
CBD	Central Business District
CFG	Cooperative Forecasting Group
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Process
CSA	Combined Statistical Area
CTP	Consolidated Transportation Program
CTPP	Consolidated Transportation Planning Package
CTSP	Community Traffic Safety Program
DBE	Disadvantaged Business Enterprise
EAT	Emphasis Area Team
EPA	Environmental Protection Agency
ES-202	Employment Security Report 202
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
FMTF	Freight Movement Task Force
GHG	Greenhouse Gases
GPS	Global Positioning System
HPMS	Highway Performance Monitoring System
HUD	Housing and Urban Development
ICG	Interagency Consultation Group
ITS	Intelligent Transportation Systems
ISTEA	Intermodal Surface Transportation Efficiency Act
ITS	Intelligent Transportation Systems

**BALTIMORE REGION UPWP**  
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ITS MD	Intelligent Transportation Society of Maryland
JARC	Job Access and Reverse Commute
LEHD	Longitudinal Employer-Household Dynamics
LEP	Limited English Proficiency
LOS	Level of Service
L RTP	Long Range Transportation Plan
M&O	Management & Operations
MAP-21	Moving Ahead for Progress in the 21st Century
MDE	Maryland Department of the Environment
MDOT	Maryland Department of Transportation
MDP	Maryland Department of Planning
MEF	Master Establishment File
MHSO	Maryland Highway Safety Office
MIEMSS	Maryland Institute for Emergency Medical Services Systems
MIIF	Major Intersections and Important Facilities
MLK	Martin Luther King
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emission Simulator
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MSGIC	Maryland State Geographic Information Committee
MSTM	Maryland Statewide Travel Model
MTA	Maryland Transit Administration
MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NSA	National Security Agency
P <sup>3</sup>	Public Private Partnership
PECAS	Production and Exchange Consumption Allocation System
PIP	Public Involvement Plan
PM <sub>2.5</sub>	Fine Particulate Matter
POPGEN	(Synthetic) Population Generator
PAC	Public Advisory Committee
PUMS	Public Use Microdata Sample
RFP	Request for Proposals

**BALTIMORE REGION UPWP**  
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RPSD	Regional Plan for Sustainable Development
RTSMO	Regional Transportation Systems Management & Operations
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SDE	Spatial Database Engine
SHA	State Highway Administration
SHSP	Strategic Highway Safety Plan
SIP	State Implementation Plan
SOP	Standard Operating Procedures
SRTS	Safe Routes to School
STP	Surface Transportation Program
T&PW	Transportation & Public Works
TAP	Transportation Alternatives Program
TBM	Travel Based Model
TC	Technical Committee
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century
TIM	Traffic Incident Management
TIMBR	Traffic Incident Management (Committee) for the Baltimore Region
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMIP	Travel Model Improvement Program
TOD	Transit Oriented Development
TPB	Transportation Planning Board
TOD	Transit Oriented Development
TCM	Transportation Control Measure
TDM	Transportation Demand Management
TTX	Tabletop Exercise
UASI	Urban Area Security Initiative
UAWG	Urban Area Work Group
UMB	University of Maryland Baltimore
U.S. DOT	United States Department of Transportation
UPWP	Unified Planning Work Program
VMT	Vehicle Miles Traveled
VPP	Vehicle Probe Project
WILMAPCO	Wilmington Area Planning Council
WIP	Watershed Implementation Plan
WMATA	Washington Metropolitan Area Transit Authority