BALTIMORE REGION FY 2018-2019 UNIFIED PLANNING WORK PROGRAM FOR TRANSPORTATION PLANNING

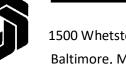
APRIL 25, 2017

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



1500 Whetstone Way, Suite 300 Baltimore, MD 21230-4767

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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 2018-2019 Unified Planning Work Program.

BALTIMORE REGION FY 2018-2019 UNIFIED PLANNING WORK PROGRAM FOR TRANSPORTATION PLANNING

The Honorable Allan Kittleman Chairman Baltimore Regional Transportation Board

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April 25, 2017

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

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INTRODUCTION

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UNIFIED PLANNING WORK PROGRAM DEVELOPMENT PROCESS

The Fiscal Year (FY) 2018-2019 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 two fiscal years (July 1, 2017 through June 30, 2019). 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 2018-2019 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 2015, the BRTB approved *Maximize2040: A Performance-Based Transportation Plan*, 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 continued development of processes and procedures to address requirements related to performance-based planning and programming. This UPWP includes studies and programs to those ends.

The UPWP is funded through an 80 percent planning grant provided by FHWA and FTA and a 20 percent match provided by the 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-114-94)) and Title 49, Section 5303 metropolitan planning funds. The total funding proposed for the FY 2018 transportation planning activities for the Baltimore region is \$8,646,415. For FY 2019, the estimated funding is \$5,921,065.

Beginning with the FY 2016-2017 document, the UPWP has been developed every two years, with approval in March or April. Developing this UPWP has relied on the continued cooperation among State (specifically transportation, air quality and planning agencies), local and regional entities. The FY 2018-2019 UPWP was prepared with the involvement of these organizations, acting through the BRTB and its subcommittee structure.

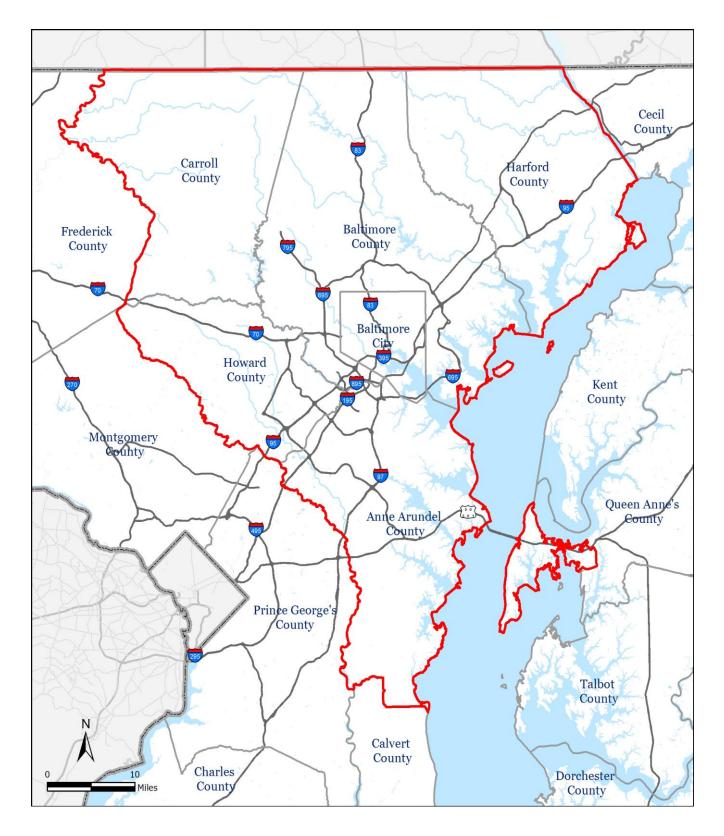
The work tasks delineated in the UPWP are performed primarily by staff working in the Transportation Planning Division of the Baltimore Metropolitan Council (BMC), with limited support provided by other functioning units within the BMC. Specific elements of the UPWP, at times, are contracted out to consultants 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 13 smaller incorporated municipalities. The renamed Baltimore-Towson metropolitan area (excluding Queen Anne's County) has also been designated by the U. S. Environmental Protection Agency (EPA) as a "moderate" non-attainment area for the 8- hour ozone standard. 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).

METROPOLITAN TRANSPORTATION PLANNING

The most recent federal transportation legislative program, Fixing America's Surface Transportation (FAST) Act, was signed into law by President Obama on December 4, 2015. The FAST Act preserves the commitment to the metropolitan transportation planning process established in previous federal initiatives. On May 27, 2016, the U.S. Department of Transportation (U.S. DOT) issued the latest regulations regarding metropolitan planning, specifically outlining the planning requirements associated with the metropolitan planning process, including following a performance-based approach in developing the Transportation Improvement Program (TIP) and the long-range transportation plan.

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 a 13-member policy board consisting of the cities of Annapolis and Baltimore; the counties of Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne's; and MDOT, the Maryland Department of the Environment (MDE), the Maryland Department of Planning (MDP), the Maryland Transit Administration (MTA) and a Representative of Public Transportation (currently Harford Transit). Voting rights are extended to all members with the exception of the Maryland Department of the Environment, the Maryland Department of Planning and the Maryland Transit Administration. These agencies serve the BRTB in an advisory capacity. Harford Transit currently serves the role of "representative of public transportation" on the Board based on 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 redesignation 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. MDP 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.

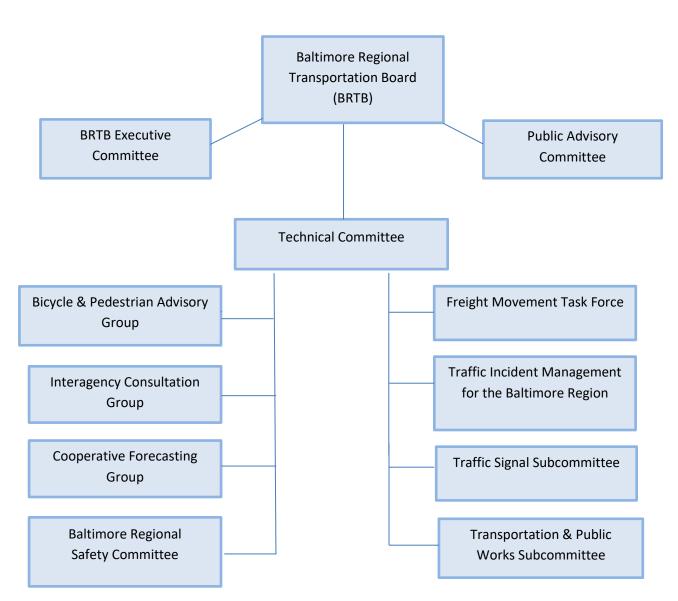
TABLE 1

ROLES AND RESPONSIBILITIES FOR TRANSPORTATION PLANNING AND PROGRAMMING

Planning Responsibility	Memorandum of Understanding (MOU)	Date Executed	Status	Changes Planned
UPWP Development	Formal MOU establishing the BRTB as the Baltimore MPO and develop a 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.

2016 Federal Certification Review

The most recent certification review took place from April 25-27, 2016. 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 commended the BRTB for its efforts in several areas, including:

- achieving transit representation on the board
- endeavoring to complete projects funded through the Housing and Urban Development (HUD) Regional Sustainable Communities program
- making significant progress in implementing performance measures into the planning process
- developing interactive mapping intended to facilitate environmental coordination for *Maximize2040*
- coordinating and participating in freight activities in the region, particularly the Port-to-Point (P2P) initiative to assess the effects of the redevelopment of the Sparrows Point terminal complex on truck movements
- taking advantage of two SHRP-2 grant opportunities: conducting freight demand modeling and data development through the SHRP-2 C20 program and developing an advanced travel demand model through the SHRP-2 C10 program.

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

- 1. incorporating specific information into the LRTP financial plan that identifies the sources of federal, state, and local transportation program funds available to the region, including historic trends and future projections
- 2. continuing to improve efforts to garner public support and participation in air quality initiatives
- 3. making Title VI complaint information easily available to the public on the website
- 4. making information about freight-related initiatives more readily available on the website

5. making information about efforts to improve pedestrian and bicycle planning more readily available on the website.

The FY 2018-2019 UPWP attempts to encompass all of the required planning and programming tasks, to continue to build on the commended practices identified in the 2016 federal certification review, and to address the recommendations for improvement identified in this certification review.

PUBLIC INPUT INTO THE UPWP

In keeping with the proactive public involvement spirit of the Fixing America's Surface Transportation (FAST) Act (P.L. 114-94), the FY 2018-2019 UPWP was released to the public for a 30-day review and comment opportunity – no comments were received. The Technical Committee and Public Advisory Committee completed a final review and two minor edits. 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 2018-2019 UPWP. Information on the public review process (including outreach) is shown in Appendix C of this document.

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:

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

TABLE 2

UPWP Tasks	FasksRegional Goals (= primary association; - = peripheral association)			tion)					
	1	2	3	4	5	6	7	8	9
Multi-modal Transportation Center Feasibility Study (Anne Arundel)	\checkmark		~		~			-	
Transportation Functional Master Plan (Anne Arundel)				~		\checkmark			
Evacuation Planning (Baltimore City)	\checkmark				\checkmark			-	
Transportation Master Plan (Carroll)				\checkmark		\checkmark			
Complete Streets Continuation (Howard)	\checkmark								•
US 1 Safety Audit (Howard)	\checkmark	\checkmark			\checkmark				
MD 8 Study (Queen Anne's)	~	\checkmark	\checkmark						

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, and 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 levering 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 regional long range transportation plan, *Maximize2040: A Performance-Based Transportation Plan*, with the federal livability principles and the work of The Opportunity Collaborative represents an important step in this process.

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.

During Fiscal Year (FY) 2017 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 2016 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.

In FY 2018-2019, 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. Work with MDOT to identify and spend down available funds.

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.

A Focus Area identified in FY 2017 will now be integrated as an ongoing task in the UPWP. This task will seek to provide training to members of jurisdictions and partner agencies. Some examples of training that jurisdictions have mentioned include training in traffic modeling packages such as a traffic simulation model called VISSIM (VerkehrInStädten –SIMulationsmodell) and in the National Environmental Policy Act (NEPA) process.

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 Code of Federal Regulations (CFR) Part 23. Staff will also promote Federal Transit Administration's (FTA) policy to encourage private enterprise participation in

the planning and provision of transportation services.

Based on the level of funding made available by the Federal Highway Administration (FHWA) and the FTA, the bulk of the FY 2018 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
Training opportunities	Throughout Fiscal Year
FY 2018 UPWP amendments	Throughout Fiscal Year
FY 2019 UPWP budget adjustments	3 rd Quarter
FY 2019 UPWP budget development and local contracts as necessary	4 th Quarter

FY 2018 BUDGET: \$740,000

FY 2019 ESTIMATED BUDGET: \$680,000

PROJECT: PUBLIC PARTICIPATION AND COMMUNITY OUTREACH

PURPOSE: To allow both individuals, organizations, and groups the opportunity to actively engage in the regional transportation planning process through a variety of methods. The Baltimore Regional Transportation Board (BRTB) has affirmed that it is important to ask for public participation, not just wait for it. Active participation, by the public and partner agencies alike, is an essential part of a meaningful transportation planning process 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.

In Fiscal Year (FY) 2017 staff 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 Unified Planning Work Program (UPWP) and Transportation Improvement Program (TIP) amendments; convening monthly meetings of the Public Advisory Committee (PAC); improving communications and outreach efforts; utilize social media to share information and grow audiences on Facebook, Twitter, and LinkedIn pages for BaltoMetroCo, B'more Involved, Bike2WorkCentralMD, and Maximize2040; and a team of staff collaborated to launch the What's on Tap regional events series, as well as regional Bike to Work Day events.

In FY 2018-2019, staff will continue to educate and engage the public early and often throughout the planning process. Ongoing activities include:

Support ongoing efforts to 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 public involvement opportunities for *Maximize2045*, TIP, UPWP, Air Quality Conformity Determination, and other plans and programs issued for public review by the BRTB. 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 will be provided to the BRTB.

Staff will convene and provide support to the PAC members at monthly meetings of the PAC and the subcommittees. Staff will continue to assist the PAC with the fulfillment of their mission as they continue with consideration of an ad-hoc subcommittee on Transportation Equity.

Staff are developing a robust public involvement process for the development of the Long Range Plan - *Maximize 2045*. One potential idea being discussed is convening a regional roundtable consisting of local businesses, educational institutions, government agencies, nonprofits, and other organizations. The purpose of this group would be to discuss future trends in transportation and provide feedback into the development of *Maximize2045*.

An internal communications team will meet regularly to coordinate and collaborate on outreach and education efforts including: *Maximize2045*, Bike to Work Day, Clean Commute Initiative, What's on Tap, and other planning efforts. 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 on B'more Involved (promoting civic engagement) and BaltoMetroCo (BMC/BRTB announcements, opportunities, and events); distributing surveys, place advertisements in local media outlets, etc.

An annual report on public involvement activities and outreach efforts will be published or incorporated into the agency's Annual Report. An update of the Public Participation Plan (PPP) will occur in this two-year period. Staff will work with the PAC to get early input into the updated PPP.

Staff will coordinate a series of regional events that bring together the public with local and national thought leaders and innovators to learn about future trends and technology, share ideas and best practices, and discuss a wide-range of important topics. The goals of these events are to build relationships with area residents and local institutions; provide opportunities for learning, collaborating, and networking; and increase awareness of the BRTB and opportunities for involvement in the planning process.

Staff will continue to work with BRTB members and elected officials to identify opportunities to move BRTB meetings out into the community, such as the January 2017 BRTB meeting with elected officials at the Baltimore Cruise Ship Terminal.

Staff will also collaborate with local organizations to identify event speakers, locations, sponsors, and interested stakeholders, plan event objectives and programs, conduct marketing and promotion, and review event evaluations and identify ways to overcome barriers to involvement.

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
 Public Participation Plan Begin review with PAC Complete and seek approval 	3 rd Quarter FY 2018 2 nd Quarter FY 2019

FY 2018 BUDGET: \$200,000

FY 2019 ESTIMATED BUDGET: \$200,000

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 Baltimore Regional Transportation Board (BRTB). The Baltimore Metropolitan Council (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.

During Fiscal Year (FY) 2017, two multi-year contracts continued for the development of an activity based travel demand model and the other for freight services. These contracts are anticipated to conclude in FY 2017. Two one-year contracts were signed, one for regional bike planning and one for transit behaviors and attitudes. Two other contracts are underway as a result of NCHRP grants. 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 2018, 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 – Deployment 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 - Studies as directed by the BRTB

Regional Freight Analysis – Studies as directed by the BRTB.

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

FY 2018 BUDGET: \$845,000

FY 2019 ESTIMATED BUDGET: \$455,000

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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.

During Fiscal Year (FY) 2017 a range of activities supporting long range planning were completed.

2015 Plan – The Baltimore Regional Transportation Board (BRTB) adopted the final 2015 plan, known as *Maximize2040: A Performance-Based Transportation Plan*, and the corresponding air quality conformity determination in November 2015. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) approved the final plan and U.S. Environmental Protection Agency (EPA) accepted the determination of air quality conformity in January 2016. Since that time, the BRTB has amended the plan several times to advance projects to earlier implementation dates, while maintaining fiscal constraint.

2019 Plan – Staff has prepared a schedule for developing the 2019 plan and has identified data needs, relevant inputs, required analyses, and public outreach objectives and techniques. Staff has developed additional implementation strategies to support the broad regional goals and has asked the Technical Committee and the Public Advisory Committee for review and comment. These proposed new strategies are intended to strengthen planning related to system redundancy and evacuation routes, to incorporate a new planning factor related to tourism that was added in the Fixing America's Surface Transportation Act (FAST Act), and to acknowledge the need to consider emerging vehicle technologies and shared mobility options in project planning and programming.

Development of the 2019 plan will follow the performance-based approach established in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and refined in the FAST Act.

FY 2018 activities are shown in the table below. FY 2019 activities will include:

- evaluation and selection of major projects and programs
- modeling and testing of the preferred alternative (air quality conformity modeling, travel demand modeling, Environmental Justice analysis, coordination with resource agencies on effects relative to natural and cultural resources)
- preparation of a draft plan, followed by a public review and comment period
- consideration of partner and public comments during preparation of the final plan

PRODUCTS/MILESTONES	SCHEDULE
Coordinate development of performance measures and targets with MDOT; BRTB adoption of performance measures and targets	1st Quarter FY 2018
Coordinate development of financial forecast with MDOT	2nd Quarter FY 2018
BRTB adoption of financial forecast Coordinate development of population and employment forecasts with the Cooperative Forecasting Group	3rd Quarter FY 2018
BRTB adoption of population and employment forecasts Solicit major projects and programs from jurisdictions and state modal agencies	3rd Quarter FY 2018 4th Quarter FY 2018

FY 2018 BUDGET: \$150,000

FY 2019 ESTIMATED BUDGET: \$150,000

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.

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 User Group. Since Fiscal Year (FY) 2014, staff has been preparing quarterly bottleneck reports that identify the top ten bottlenecks in the region. Staff has also prepared two corridor congestion brochures and several press releases about potential holiday (i.e., Labor Day, Thanksgiving) traffic based on analyses of past traffic conditions.

In FY 2018–2019, a significant focus of CMP efforts will be on incorporating federal system performance requirements into plans and programs and working closely with state and local partners to meet performance targets. In addition, work will include: monitoring the highway network using vehicle probe data and developing quarterly bottleneck reports, 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), developing traffic analyses to assist with planning around holiday travel, and updating the CMP portion of the Baltimore Metropolitan Council (BMC) web page. CMP efforts will continue to be supported through continued and expanded use of data available through the VPP Suite and other emerging data sources.

In addition, staff will review the State Highway Administration (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 SHA's Interagency Review process for project planning.

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 2018 BUDGET: \$170,000

FY 2019 ESTIMATED BUDGET: \$170,000

TASK: OPERATIONS PLANNING

<u>PURPOSE</u>: 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 M&O activities.

During Fiscal Years (FY) 2016 - 2017, 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 of Maryland (ITSMD). 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 – This group meets quarterly to discuss signal operations and ways to improve mobility and safety for all road users, including pedestrians, bicyclists, and motorcycle riders. In mid-FY 2016, 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 – This group meets quarterly to improve communication, coordination and cooperation needed for safe and efficient traffic incident management in the region. Staff continued to support activities of the committee, such as action items from the April 2016 TIM Conference; action items from the TIM Self-Assessment; 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 support 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 has been participating in several SHRP2 implementation projects being led by SHA. One of the projects involved the development of a Transportation System Management and Operations (TSMO) Strategic Implementation Plan for the state.

In FY 2015, BMC worked with SHA to submit an application to the Federal Highway Administration (FHWA) under the Integrated Corridor Management (ICM) Grant Program. The project was funded and work on the project began in FY 2016 and was completed in FY 2017. The project focused on the Baltimore-Washington

corridor and included the development of a Concept of Operations; Analysis, Modeling and Simulation Plan; and ICM Deployment Approach Plan. Work will continue on this effort as funds are identified for implementation.

In FY 2018-2019 staff will focus on: supporting regional operations committees; continuing work on corridor studies; coordinating 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 federal performance requirements.

Supporting Regional Operations Committees: Traffic Signal Subcommittee - The subcommittee will hold its next Regional Traffic Signal Forum in mid-FY 2018. 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 and continue to meet quarterly. 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; work on items identified in the annual TIM self-assessments; and advance priority initiatives identified by the TIMBR Committee.

TIM Conference Follow-up: In FY 2016, the TIMBR Committee held a TIM conference supported with State Transportation Innovation Council (STIC) funds. The remaining STIC funds will be used to support action items identified at the TIM Conference. If additional funds are identified, the TIMBR Committee will hold another TIM conference.

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.

Corridor Studies: This work, which began in FY 2017, was initiated to identify congestion management strategies for locally- or state-maintained corridors that may need study due to significant operational issues. This task involves identifying one corridor in each jurisdiction; the study includes gathering data on system performance, assessing alternative strategies for congestion management that meet state and local needs, and identifying congestion management strategies that could best be moved into the funding and implementation stages. In FY 2017, work began on the MD 140 corridor in Baltimore County; in FY 2018-2019, work will continue on this corridor and will begin on corridors in other jurisdiction.

Coordination with Operations Partners: Staff will continue to support operations activities of various partners, such as ICM work in the Baltimore-Washington corridor, projects arising from the TSMO Strategic Implementation Plan (such as the Coordinated Freeway/Arterial Plan), and continued participation on the CHART Board.

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
Hold Traffic Signal Forum	3 rd Quarter FY 2018
Corridor studies	Throughout Fiscal Year
Coordinate with regional CMP	Throughout Fiscal Year

FY 2018 BUDGET: \$140,000

FY 2019 ESTIMATED BUDGET: \$140,000

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.

In Fiscal Year (FY) 2016-2017, Baltimore Metropolitan Council (BMC) staff continued 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 co-chairs the Infrastructure Emphasis Area Team (EAT) and play an active role on the Pedestrian and distracted driving EATs, the Older Driver Safety Forum and the statewide Motorcycle Safety Coalition. The Infrastructure team completed the development of an Intersection Safety Implementation Plan (ISIP). 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. Staff also participated 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). In late 2016, the Older Driver Safety Forum developed Maryland's first resource guide for aging drivers. BMC staff provided input into the Baltimore City Department of Transportation (DOT) pedestrian safety campaign – Look Up, Look Out – that was kicked-off at a press event on October 27th at the Truck 29 Fire Station on Cold Spring Lane. BMC used the creative material to promote the campaign on social media.

The Baltimore Region Safety Subcommittee (BRSS) met as needed 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.

In FY 18 and FY 19, staff and the BRSS will continue to play an advisory role to State Highway Administration (SHA), MHSO, Motor Vehicle Administration (MVA) and local jurisdictions towards developing and implementing programs and projects that would help reduce the overall crashes, fatalities and injuries. The safety subcommittee will meet in an ad-hoc capacity when necessary and will hold a regional safety forum every 18-months or so to highlight progress being made towards the zero deaths goal adopted by Maryland. Staff will also work collaboratively with MHSO and SHA to develop and monitor performance targets as required by the Fixing America's Surface Transportation (FAST) Act.

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. 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 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
Regional Safety Subcommittee Meetings	As required
Collaborate with state and local agencies on safety	Throughout Fiscal Year

FY 2018 BUDGET: \$140,000

FY 2019 ESTIMATED BUDGET: \$140,000

TASK: BICYCLE AND PEDESTRIAN PLANNING

<u>PURPOSE</u>: 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.

During Fiscal Year (FY) 2016 and FY 2017, the Baltimore Metropolitan Council (BMC) facilitated the following activities on a regional level: continued support for the StreetSmart education program; support for Carroll County as they began activities related to their bicycle and pedestrian plan; organized a walk at Fort McHenry as a part of Walk MD – Maryland's Walking Day; organized and hosted a workshop on the Transportation Alternatives (TA), Maryland Bikeways, and Recreational Trails programs; reviewed the 2017-2020 Transportation Improvement Program (TIP) in relation to bike and pedestrian improvements; hosted a workshop led by Maryland Recreation and Parks Association (MRPA) and the Department of Natural Resources (DNR) and held BPAG discussions that sought to identify priority regional on-road and off-road projects and facilitated BPAG updates on those projects; invited BPAG speakers from Toole Design Group, the Johns Hopkins Center for Injury Research and Policy, Kittelson & Associates, Rails-to-Trails Conservancy, the Safe Routes to School (SRTS) National Partnership, and the Maryland Highway Safety Office (MHSO).

In FY 2016 BPAG members worked with the Baltimore Regional Geographic Information Systems Committee (BRGISC) 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. Staff held kickoff meetings with each jurisdiction in FY 2016 followed by quarterly conference calls with each jurisdiction in FY 2016 and FY 2017. In FY 2017, jurisdictions completed data collection and the map became available online to member jurisdictions as a planning tool. Moving into FY 2018, there will be a discussion of the frequency of updates, how they will be managed, and the possibility of creating a public facing map.

In FY 2017 staff facilitated the work flow for the Patapsco Regional Greenway task. Four proposals were received in response to the Request for Proposals (RFP). A project kickoff meeting was held in November 2016. In collaboration with staff, the consultant has distributed a stakeholder survey and conducted field work along the corridor. As FY 2017 comes to a close, staff anticipates holding several stakeholder input meetings as well as making presentations to Baltimore Regional Transportation Board (BRTB) committees.

In FY 2018-2019, the successful development of many local bicycle and pedestrian plans will be followed with efforts to support implementation of the recommendations. BPAG will advise the 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 support efforts surrounding the collection of and reporting on data related to alternative transportation options.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

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

FY 2018 BUDGET: \$120,000

FY 2019 ESTIMATED BUDGET: \$120,000

TASK: FREIGHT MOBILITY PLANNING

<u>PURPOSE</u>: 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.

In Fiscal Years (FY) 2016-2017, the Freight Movement Task Force (FMTF) met several times to discuss topics of regional, local and national significance. The FMTF serves as an advisory committee to the Baltimore Regional Transportation Board (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 MPA), trucking (Maryland Motor Truck Association (MMTA)) as well as local economic development, traffic and planning representatives.

In late 2015, the FMTF established a working group (P2P) consisting of key stakeholders to study traffic impacts of development of Tradepoint Atlantic (TPA). The goal of the P2P working group is to determine if there is adequate capacity for safe and efficient truck movement along existing highway infrastructure surrounding the Port and TPA to accommodate the growth in port container traffic and induced (non-port truck, passenger, annual growth, etc.) vehicular traffic with minimal impact to communities. Staff led the study with help from a consultant team. In 2016, the team collected data – traffic counts, signal timing, employment projections, etc. BMC's travel demand model was calibrated and refined to develop traffic projections for 2025, the year when TPA is expected to be fully built out.

Staff is working with FHWA and Institute of Traffic Engineers (ITE) to organize a Downtown Delivery Symposium in March 2017. The Downtown Delivery Symposium is a one-day workshop, sponsored by ITE and FHWA's Office of Freight Management and Operations, that brings together stakeholders and thought leaders to discuss urban freight issues. The symposiums are offered in partnership with MPOs interested in advancing the state of practice in urban freight planning, management, and project implementation. This forum facilitates discussion of urban delivery trends and noteworthy practices, tools and solutions, in-depth discussion and analysis of local freight movement issues.

During FY 2018-2019, the FMTF will continue to meet on an as-needed basis to work on projects of local and regional significance and assist the state in the identification of critical urban and rural freight corridors and in the development of the statewide freight plan. Staff will also work collaboratively with SHA and other agencies towards developing and monitoring performance targets as required under the Fixing America's Surface Transportation (FAST) Act.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
Freight Movement Task Force Meetings	As required
Collaborate with state and local agencies	Throughout Fiscal Year

FY 2018 BUDGET: \$140,000

FY 2019 ESTIMATED BUDGET: \$140,000

TASK: TRANSIT PLANNING AND LADDERS OF OPPORTUNITY

PURPOSE: Perform transit planning work on behalf of the Baltimore Regional Transportation Board's (BRTB) members that reflects and promulgates best practices to support the integrated consideration of transit access and mobility. This will leverage the technical capabilities of the Baltimore Metropolitan Council (BMC) to develop and share planning tools and analysis more accessible to local partners and the public. The goal is 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.

During Fiscal Year (FY) 2017, BMC staff worked with the Maryland Transit Administration (MTA) to analyze bus routes proposed for BaltimoreLink and then to assist on a work group developing metrics to assess performance. Staff also assisted in reviewing and recommending projects for the Federal Transit Administration (FTA) Section 5310 Program and the Senior Rides Program.

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 2018-2019, a range of transit activities will be supported. Moving Ahead for Progress in the 21st Century (MAP-21) and the Fixing America's Surface Transportation (FAST) Act resulted in a number of new rules such as Transit Asset Management (TAM) Plans. These plans include performance targets, initially identified by the MTA, which will be accepted or modified by the BRTB. Once established the BRTB will integrate the metrics into the long-range transportation plan and Transportation Improvement Program (TIP). A continuing 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 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. Transit analysis completed to assist with work force development and affordable housing assessments will provide a base for continuing this work.

Staff will coordinate a regional effort to match bus stops at the interface of MTA and local transit routes. This effort may also include a review of amenities at these transfer points and information to identify which services and routes are available at a particular location.

Building on a recent Federal Highway Administration (FHWA) workshop titled "Planning for Transportation Demand Management: A Contemporary Approach", staff will continue to coordinate with the Maryland Department of Transportation (MDOT). There is also a goal to coordinate data collection at Park-&-Ride lots throughout the region to have a consistent approach, this would include SHA, MTA and local jurisdictions. There is also a recommendation to have more information of transit resources available to the public on the BMC website – this is currently underway with more work occurring in FY 2018.

Under the direction of the voting transit representative, staff will work on regional transit analysis efforts through a working group consisting of representatives from MTA and the LOTS agencies. This can include updates to Transit Development Plans, cooperative purchasing arrangements and farebox reciprocity agreements.

PRODUCTS/MILESTONES	SCHEDULE
Analysis of short-term opportunities to improve service.	Throughout Fiscal year
Review state and local transit plans for consistency	Throughout Fiscal year
Support identification of locations where MTA and LOTS routes interface	Throughout Fiscal year

<u>FY 2018 BUDGET</u>: \$250,000

FY 2019 ESTIMATED BUDGET: \$250,000

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.

Several Fixing America's Surface Transportation Act (FAST Act) initiatives support the ongoing human service transportation planning efforts of the Baltimore region. For example, under the FAST Act, the following programs are funded: Federal Transit Administration (FTA) Section 5310 (Enhanced Mobility of Seniors and Individuals with Disabilities), and United We Ride. These programs seek to coordinate federally-funded local transportation programs for seniors and disabled individuals. Priorities are to address the FAST Act's human service transportation goals through involvement in state and local transportation coordinating committees, Section 5310 grant reviews, and planning mobility options for seniors and disabled individuals. In FY 2016, the Baltimore Regional Transportation Board (BRTB) approved an updated *Baltimore Area Coordinated Public Transit-Human Services Transportation Plan*, including changes to the region's strategies voted on by regional stakeholders. New strategies to expand volunteer driver programs, encourage organizations to improve their own or another organization's performance, and promote coordination or consolidation of aging and disability resources, will underlie regional efforts.

In FY 2017 applications for funding through the Enhanced Mobility for Seniors and Individuals with Disabilities program were presented to the BRTB after a review 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.

In FY 2018-19, staff will also 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, staff will seek opportunities to provide outreach assistance to organizations that are working to improve travel options for their clients. Staff will participate with the 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 2018-2019 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. 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. Staff will 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 FY 2018 - 2019
Participate in meetings to assist with coordination of human services transportation	Throughout Fiscal Year
Assist in reviewing applications for the Senior Rides program	3 rd & 4 th Quarters

FY 2018 BUDGET: \$80,000

FY 2019 ESTIMATED BUDGET: \$80,000

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).

During Fiscal Years (FY) 2016 - 2017, 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: Information Exchange Forum on Extreme Weather Planning and Response; Coordination with Emergency Management and FEMA on evacuation planning for the region; Framework for Use of a Temporary Regional Debris Management Site; and FEMA-sponsored debris training/exercise.

In FY 2018-2019, staff efforts will continue to 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, if projects are identified. S taff 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 Committee will also initiate projects that are funded through other sources or do not require funding. All committee projects will focus on evacuation planning and coordination as well as other aspects of emergency preparedness of public works departments.

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 five disaster debris-focused exercises / forums to identify, discuss, and resolve coordination issues, the most recent being in late FY 2017. In FY 2016, the Task Force finalized a Framework for the Use of Temporary Regional Debris Management Sites. This document was presented to elected officials; if desired by elected officials, the Task Force will work on next steps to support use of the Framework. In FY 2018 - 2019, 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 Initiative (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. 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 2018 BUDGET: \$110,000

FY 2019 ESTIMATED BUDGET: \$110,000

TASK: TRANSPORTATION EQUITY PLANNING

<u>PURPOSE</u>: To encourage equitable outcomes and involvement in the regional transportation planning process.

During Fiscal Year (FY) 2017, staff completed a successful review of its Title VI compliance as a sub-recipient of Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and Maryland Department of Transportation (MDOT). Documentation of Title VI compliance with the general and metropolitan planning organization (MPO)-specific requirements specified in the FTA's *Circular 4702.1B: Title VI Requirements and Guidelines for Federal Transit Administration Recipient* was maintained. Staff also continued activities to meet the requirements of *Circular 4703.1: Environmental Justice Policy Guidance for Federal Transit Administration Recipients*.

Staff evaluated internal policies (and other MPO policies) associated with the Americans with Disabilities Act (ADA), and will refine as needed to both be compliant and demonstrate compliance. Staff also updated the Vulnerable Population Index (VPI) datasets based on current American Community Survey (ACS) data.

In FY 2018-2019, staff will develop a plan, and begin to implement, an update to the VPI tool to add interactive features such as local meeting locations, key organizations (as identified in BMC's Insightly database), and interested parties. Staff will continue to share the updated VPI data/maps with local organizations, nonprofits, and other interested parties. Feedback obtained in the sharing of these tools will be incorporated, when possible, into the VPI data sets, maps, and web-based tool.

VPI data and other datasets will be used to develop/refine methods to evaluate the benefits and burdens associated with the Transportation Improvement Program (TIP) and long-range transportation plan - *Maximize2045*. To support the determination of benefits and burdens, staff will research methods/performance measures specified in Moving Ahead for Progress in the 21st Century (MAP-21) and the Fixing America's Surface Transportation (FAST) Act, in addition to those in development/use in other MPO evaluations.

Staff will provide support to the PAC ad hoc subcommittee on transportation equity.

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

PRODUCTS/MILESTONES	SCHEDULE
Review Disadvantaged Business Program (DBE) Target Participation Goal	2 [™] Quarter, FY 2018, 2019
Prepare Title VI Annual Report	2 nd Quarter, FY 2018, 2019
Evaluate Benefits and Burdens for the LRTP, TIP	3 [.] Quarter, FY 2018, 2019
Review ADA Policies	4 [™] Quarter, FY 2018

FY 2018 BUDGET: \$100,000

FY 2019 ESTIMATED BUDGET: \$100,000

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DATA DEVELOPMENT AND MODEL ENHANCEMENTS

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PROJECT: DATA COLLECTION

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.

During Fiscal Year (FY) 2016 - 2017, 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, staff continues to make available the BPDS Quick Viewer, which is a free online mapping product that allows the user to view the location of selected building permits on a map. Staff also made multiple presentations on development monitoring activities to the Technical Committee of the Baltimore Regional Transportation Board (BRTB).

In FY 2018-2019, staff will prepare monthly and quarterly reports of plans for new residential and nonresidential 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. BMC staff will conduct an analysis comparing the building permit data points currently captured from each jurisdiction with the data points each jurisdiction collects in the permit application process to determine if there is potential for the enhancement of BMC's building permit products. Staff will continue to compile and update 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.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
Reports on residential/non-residential development plans	Throughout Fiscal Years
Reports on "green" construction activity	1 st Quarter 2018 - 2019
Report on residential hot spots	2 nd Half FY 2018 - 2019
Analyses/Maps of residential building permit activity by water and sewer service areas and Priority Funding Areas	2 nd Half FY 2018 - 2019
Analysis/update of building permit data points provided to BMC by local jurisdictions	1 st Half FY 2018
Compile and update list of state and local incentives that impact residential development patterns/trends	2 nd Half FY 2018 - 2019

FY 2018 BUDGET: \$240,000

FY 2019 ESTIMATED BUDGET: \$240,000

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.

During Fiscal Years (FY) 2016 and FY 2017, staff completed activities in three areas:

Traffic Counts: The Baltimore Metropolitan Council (BMC) completed a multi-year contract with a vendor to perform all forms of traffic counts from FY 2014-2016. Staff 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. In FY 2017 BMC collected turning movement counts including bicycle and pedestrian data for a study along MD-140 from outside I-695 to Owings Mill Boulevard. Additional vehicle classification counts were performed in support of the travel demand model by request in areas where existing counts were deemed to be outdated.

Speed and Travel Time Collection: Making use of vehicle probe data from INRIX, Quarterly Congestion Analysis Reports were produced throughout FY 2017 showing the top 10 bottlenecks in the region. 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. Staff has been using this data to support several agency activities including the regional CMP.

Trip Generation: BMC performed research on new 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 a National Household Travel Survey (NHTS) Add-On.

In FY 2018 and FY 2019, staff will engage in four areas:

Traffic Counts: A new vendor was selected for a 3-year time frame spanning FY 2017-FY 2019. The on-call contract will require the vendor to perform various types of traffic counts including but not limited to volume, vehicle classification, turning movement, bicycle and pedestrian. A targeted approach to data collection supporting regional corridor studies and the travel demand model will continue through the length of the contract. For example, BMC will collect vehicle occupancy data at the request of Baltimore Regional Transportation Board (BRTB) members on a case by case basis. The interactive online traffic count map will continue to 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 State Highway Administration (SHA). BMC will be utilizing the SHA template for turning movement counts that includes a section for bicycle and pedestrian data.

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 21st Century (MAP-21) guidelines. The vehicle probe project suite now has improved data analytics allowing for more accurate bottleneck calculations and the previous 3-month data query limitation has been overcome allowing for the ability to produce year-end reports. These reports

will be produced throughout FY 2018 and FY 2019.

Trip Generation: BMC will continue to research new Origin Destination Survey Data technologies to support projects such as the Household Travel Survey.

Asset Management: MAP-21 includes requirements pertaining to the process for development of Risk Based Transportation Asset Management Plans (TAMP) that includes strategies leading to a program of projects that would make progress toward achievement of the State targets for asset condition and performance of the National Highway System (NHS). SHA is responsible for creating a TAMP based on data and analysis including consideration of engineering, life-cycle cost, and risk analysis with investment strategies being developed to best manage the physical assets with the limited funding available and anticipated in the future. As the metropolitan planning organization (MPO), the BRTB is responsible for incorporating asset management into the long-range plan (LRP). In FY 2017 staff attended several TAMP workshops and webinars as well as conducted independent research to learn how best to do so. In FY 2018 and FY 2019 staff will put that knowledge and research to use by incorporating the TAMP into the 2019 LRP. In FY 2017, BMC staff also reached out to its member jurisdictions to ascertain how best to assist them with their own asset management efforts. In FY 2018 staff will continue this effort, potentially enlisting the aid of a consultant.

PRODUCTS/MILESTONES	SCHEDULE
Highway and arterial traffic counts, vehicle occupancy and vehicle mix data	Throughout FY 2018-FY 2019
Travel data products to support the CMP	Throughout FY 2018-FY 2019
Update Online Traffic Count Map	2 nd half FY 2018 2 nd half FY 2018
Presentation and documentation materials	Throughout FY 2018-FY 2019
Documentation of TAMP Integration into the Long Range Plan	Throughout FY 2018-FY 2019
Pedestrian and Bicycle GIS database and sharing process	2 nd half FY 2018 2 nd half FY 2018

<u>FY 2018 BUDGET</u>: \$180,000

FY 2019 ESTIMATED BUDGET: \$180,000

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 manage the 2017-2018 Household Travel Survey.

During FY 2016-2017, staff completed the following:

Databases – Staff undertook a major update of demographic maps using the latest American Community Survey (ACS) data including population, race, income, housing costs, unemployment, mode of transportation to work, and commuting location. Charts comparing transportation mode choice by county were also created. In addition, an online map depicting equity data for the long-range plan (LRP) was created showing the projects in relation to minority and poverty data; demographic information was compiled for the Queen Anne's County section of the Baltimore Regional Transportation Board (BRTB) along with comparative statistics for the rest of the region; an analysis of the region's Consolidated Transportation Planning Package (CTPP) needs was conducted in order to help plan for the next data release which will be smaller than the current data set. Staff attended the MD State Data Center meeting and discussed plans for demographic data development in the coming year with Federal and State officials.

Travel Surveys – Staff managed all phases of a Public Transportation Choice Survey: preparing the Request for Proposal (RFP); reviewing three proposals submitted for the RFP and preparing a summary document; facilitating a meeting of the Selection Committee; organizing a Kick-Off meeting with the consultant at BMC's offices; working with the consultant to draft the invitation letter and questionnaire for the survey; performing demographic analysis and making recommendations for the sampling plan; monitoring the results of data collection; reviewing the final report; and presenting the survey results to the BRTB, to other committees, and to the public.

Staff evaluated the uses, feasibility, and timing of a future household travel survey. Staff has considered alternate surveys and research methods that could supplement or replace the conventional paper travel diary, in particular, smartphone applications and survey retrieval software: Staff met with Resource Systems Group, Inc. to discuss their rMove mobile app, which collects travel survey data. Technical Committee members, as well as staff from Maryland Department of Transportation (MDOT), State Highway Administration (SHA), Maryland Transportation Authority (MdTA), and BMC, volunteered to test rMove on December 15th – 18th. Staff also volunteered to test the Sense.DAT app on May 15th-28th. In addition, staff researched FluidSurveys software and created a simple household travel survey format using the free version of the software.

Staff interviewed the Maricopa Association of Governments (MAG), which recently conducted a pilot test for their new household travel survey. Staff also compiled data on recently fielded household travel surveys, specifically the use of geo-loggers or smartphone applications to replace paper travel diaries; and the use of Computer Assisted Self-Interview (CASI) software for survey retrieval.

Staff findings suggested that the cost of smartphone applications were currently prohibitive, except as an add-on, and that general survey retrieval software was either inadequate for a specialized household

travel survey or, else, would require custom scripts. Thus, in lieu of a separate technical memorandum, the discussion of costs and benefits, as well as alternate recruitment strategies, was moved to the survey plan. Furthermore, some choices were superseded by BMC's decision to join the Metropolitan Washington Council of Governments (MWCOG) household travel survey.

In March 2016, MWCOG provided an update to the Technical Committee on preparation for their new household travel survey. Afterwards, there was a discussion on opportunities for collaborating with BMC on their household travel survey, as well as design issues such as survey instrument and survey retrieval. During 2016, Staff held periodic discussions with MWCOG on joining their household travel survey, which was scheduled to begin in July 2017. Staff also updated household travel survey cost estimates based on new information and discussed possible statewide survey with MWCOG.

In September 2016, staff held preliminary discussions with MWCOG about potential collaboration on the following household travel survey tasks: sampling plan, including determination of activity centers; review of data during the survey; and post-processing of survey data.

Community Profiles – Staff reviewed data needs and discussed upgrades to BMC website. Staff also reviewed the formats and features of tables, graphics, and maps on the community profile pages of four metropolitan planning organization (MPO) websites as possible models for BMC: Metropolitan Council (Minnesota), Chicago Metropolitan Agency for Planning (CMAP), Maricopa Association of Governments (MAG), and Southern California Association of Governments (SCAG). A discussion with MAG staff, to better understand the hardware, software, and staffing requirements of their website, was arranged.

In FY 2018-2019, staff will work on these activities:

The primary task is managing the household travel survey. Staff will monitor the results of the survey in collaboration with MWCOG and the consultant; check and clean data; and analyze and report on results. Staff will also develop a plan for community profiles. Staff also plan to review the Vulnerable Population Index (VPI), in which data is obtained from the Decennial Census or the ACS to determine the regional concentration for each of seven vulnerable populations. Staff will be making demographic data available through a new data download system.

PRODUCTS/MILESTONES	SCHEDULE
Monitor Results of Household Travel Survey	Throughout FY 2018
Develop a Plan for Community Profiles	FY 2018, 2 nd Half
Check and Clean Survey Data	Throughout FY 2019
Analyze and Report on Survey Results	Throughout FY 2019

FY 2018 BUDGET: \$160,000

FY 2019 ESTIMATED BUDGET: \$160,000

PROJECT: DATA DEVELOPMENT AND ANALYSIS

TASK: GIS ACTIVITIES

PURPOSE: To maintain the Geographic Information System (GIS) that allows for information and data to be spatially organized, updated, analyzed, disseminated, and graphically depict demographic, socio-economic, and travel information.

During Fiscal Year (FY) 2016-2017 the Baltimore Metropolitan Council (BMC) played a key role in coordinating GIS initiatives involving Public Safety and Next Generation 911, including bringing BMC's member jurisdictions on to a single GIS data sharing platform, hosting a panel on the U.S. National Grid, and assisting with a Next Generation 911 workshop. BMC continued to update the regional address point and centerline layer. In coordination with the Maryland Department of Information Technology (DOIT), BMC began the process of integrating the regional layer into DOIT's statewide initiative.

Staff incorporated crash data from federal and state sources to assist in corridor studies as well as other analyses. Guidance on how to use the data was shared with members of BMC and local jurisdictions. BMC continued to build on its online technology with an updated traffic count app and a planning tool that allowed users to look at where TIP projects are located in relation to vulnerable communities.

In FY 2018-2019 work includes:

Staff will continue to coordinate with the local jurisdictions on regional projects, including addressing, regional bicycle trails, and public safety. BMC will fully integrate the regional addressing project with ongoing state efforts.

BMC will expand the organization's web presence significantly with the implementation of an Open Data website which will allow users to download BMC GIS data as well as incorporate it into their own applications. Additional web mapping applications will be created to assist in public outreach and in the creation of planning and analysis tools including an expanded demographic application, a bicycle facilities planning tool, and transportation information applications.

Work with the Baltimore Regional Geographic Information System Committee (BRGISC) will continue with ongoing coordination of regional projects, advocacy for regional interests at the state level, and by providing networking and training opportunities to GIS staff from our member jurisdictions.

BMC will continue its leadership role in state GIS activities, including serving on Maryland State Geographic Information Committee (MSGIC) subcommittees, coordinating with state GIS entities at MD iMap Technical Committee meetings, and assisting with the Towson GIS conference.

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, and the travel demand model.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
GIS mapping and geospatial analysis	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
Develop new mapping applications and GIS web services	Throughout Fiscal Year

FY 2018 BUDGET: \$340,000

FY 2019 ESTIMATED BUDGET: \$340,000

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.

During Fiscal Year (FY) 2017, the CFG continued to meet on a bi-monthly basis, with one exception. An update to the Master Establishment File (MEF) (utilized in the development of small area employment allocation) and a survey of the forecasting processes utilized by other Metropolitan Planning Organizations were completed. The CFG is in the process of determining if, how, and when the results of the survey will impact their own forecasting process. On August 23, 2016 the Baltimore Regional Transportation Board (BRTB) endorsed the Round 8B cooperative forecasts, which captured two new major developments in the region, and included a portion of Queen Anne's County for the first time. The CFG also approved a draft schedule for the Round 9 cooperative forecasts, which will support the development of the 2019 long range plan update. Additionally, the CFG continued discussions on bi-regional growth assumptions with the Metropolitan Washington Council of Governments (MWCOG) and Wilmington Area Planning Commission (WILMAPCO).

In FY 2018-2019, the CFG will continue to meet on a bi-monthly basis. The group will complete the Round 9 socioeconomic forecasts, evaluate the need for updated forecasts on an annual basis, and update the forecasts as necessary. Additionally, the CFG will incorporate adjustments to its forecasting procedures based upon the recommendations of the forecast survey subcommittee. The CFG will also consider the development or acquisition of a Cohort Component Model to assist with the cooperative forecasting process, as well as scenario planning exercises.

The CFG will continue to monitor the release of Census data that pertains to population, households, and employment, document the proceedings of the CFG meetings, document comparisons between Round 8B and Round 9 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 for 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).

In 2018, the BMC will assist the United States Bureau of the Census, the Maryland State Data Center, and local planners in developing databases and geographic products that will enhance the collection and tabulation of the 2020 decennial census. Also BMC will assist local planners in developing address reference lists for submission to the Census Bureau by providing technical assistance and GIS processing. BMC will work closely with the Geography Division and the Journey to Work and Migration Division of the Census Bureau, as well as with local planners, in developing the statistical geographic boundaries that will be used in the 2020 census, Participant Statistical Areas Program (PSAP). These boundaries will include Census Designated Places, Census Tracts, Census Block Groups, Census Blocks, and Transportation Analysis Zones (TAZs).

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
Round 9 Forecasts Due	July 2018
Evaluate need for update to forecasts	1 st Half FY 2018 - 2019
Update forecasts as necessary	2 nd Half FY 2018 - 2019
Provide technical assistance to local planners for Local Update of Census Address Program (LUCA)	FY 2018
Provide technical assistance to local planners for Participant Statistical Areas Program	FY 2018 - 2019
Incorporate adjustments to the forecasting process as recommended by the forecast subcommittee and the CFG members	Throughout Fiscal Years
Monitor and review relevant Census data releases	Throughout Fiscal Years
Document proceedings of the CFG	Throughout Fiscal Years
Provide data to local jurisdictions upon request	Throughout Fiscal Years
Provide data compilation, data development, and technical assistance	Throughout Fiscal Years

<u>FY 2018 BUDGET</u>: \$240,000

FY 2019 ESTIMATED BUDGET: \$240,000

TASK: ANALYSIS OF REGIONAL DATA AND TRENDS

<u>PURPOSE</u>: 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.

During Fiscal Year (FY) 2016-17 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 *Maximize2040*, 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, demographics and housing, 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, after analyzing articles written by leading researchers and published in peer-reviewed journals on the connections between future demographics and local housing markets, staff compiled a preliminary list of indicators to monitor the trajectory of demographic and housing trends, as they affect the Baltimore region. Demographic and housing forecasts are key inputs to the regional transportation model. Following discussions with regional partners about their data needs, staff researched potential demographic and housing indicators, including parcel point and attribute data, census tract summary data, and housing sales data. Data sources included the American Community Survey (ACS), Maryland State Department of Assessments and Taxation, Maryland Land Records, MD Property View, and county websites.

Once it was determined that the demographics and housing activity would combine data from the ACS and MD Property View, staff identified and started to research technical issues, including differences in Census geography for 5-Year ACS products, the choice of software, i.e. database, to store the data, data structure, batch processing of structured query language (SQL) statements, as well as mapping and visualization techniques.

Using ACS data on tenure and household size at the census tract level, staff developed draft templates for tables and maps. Staff also selected 5-year ACS housing data, including physical characteristics, occupancy characteristics, and financial characteristics, to be displayed on the website. Data for 2009-2014 and 2003-2008 was downloaded.

Staff also analyzed ACS disability data and produced a table: Regional Disabled Population Distribution. Data was also processed for the new ACS Quick Facts web map. A web service with the boundaries and data was published for use in the app.

Finally, it was decided that BMC would develop the State of the Region Report as part of the new Metropolitan Report. Staff familiar with data collection at BMC worked on the update of the Metropolitan Report.

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.

Staff created a questionnaire for non-profit transportation providers. The questionnaire asked organizations about their operations, use of technology, and data collection practices. Staff met with five non-profit transportation providers: Associated Catholic Charities, AIM, LifeBridge, Partners In Care and NeighborRide to complete the questionnaire and discuss their experiences with, and plans for, new technology.

In FY 2018-2019, staff will work on these activities: analyze/synthesize current data; research and define mapping and visualization specifications for demographics and housing activity; and select hardware/software for demographics and housing activity.

The New Transportation Services and Technology Transfer task will not go forward, although outreach and assistance to non-profit transportation providers will continue under Human Service Transportation Coordination.

PRODUCTS/MILESTONES	SCHEDULE
Analyze/Synthesize current data.	Throughout Fiscal Year
Research and define mapping and visualization specifications for demographics and housing activity.	Throughout Fiscal Year
Select hardware/software for demographics and housing activity.	FY 2019, 1 st and 2 nd Quarter

FY 2018 BUDGET: \$110,000

FY 2019 ESTIMATED BUDGET: \$110,000

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.

During Fiscal Year (FY) 2017, the Baltimore Metropolitan Council (BMC), continued providing technical assistance to state modal agencies. The Baltimore Regional Transportation Board (BRTB) in partnership with MDOT/State Highway Administration (SHA) was successful in receiving three Strategic Highway Research Program (SHRP)2 travel modeling enhancement pilot demonstration grants. Two grants, 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 were awarded in prior FY's resulting in a new region/state Freight System Model and the activity based model (ABM) - Initiative to Simulate Individual Travel Events (InSITE) and Dynamic Traffic Assignment (DTA)Lite Integrated model. The C20 and C10 model estimation, calibration and validation were completed in FY 2017 with the contractors delivering executable software code. Staff participated in training workshops, installation on BMC's virtual server, and initial testing and evaluation. The SHRP2 grant, L04 Incorporation of Reliability within Travel Models, was initiated prior to the conclusion of FY 2017. The Maryland Transit Administration (MTA) announced the BaltimoreLink initiative, a major restructuring of region's fixed bus network. BMC supported the initial development and revisions through participation in the BaltimoreLink Performance Matrix Workgroup. Staff translated the MTA's versioned BaltimoreLink transit network and modifications received from public input within the region's planning network. Using the trip based model, performance measurements on demand, transit network system connectivity, and transit accessibility were calculated and used for committee evaluation of system performance and public outreach. As requested, staff provides the latest version to MDOT modal agencies and their consultants to be used in corridor and project planning studies. In addition, SHA made requests for BMC's assistance in the development of project specific horizon year simulated volumes as a result of highway network and/or proposed demographic changes.

In FY 2018 and FY 2019, staff will continue to support MDOT modal administrations in three areas – 1) technical tool enhancement, 2) technical tool evaluation towards deployment, and 3) model application.

The region and state continue to develop advanced regional and statewide simulation tools. State technical assistance will be provided working cooperatively on SHRP2 L04 Incorporating Reliability within Simulation Tools and supporting InSITE transfer to the Maryland Statewide Transportation Model (MSTM) version 2.0. The SHRP2 L04 will enhance simulation results beyond an "average day". The SHRP2 L04 Scenario Manager and Vehicle Trajectory Processor parameters will be developed for scenario generations of special events, bad weather, and major and minor incidents based on the analysis of vehicle probe data linked with weather and incident reports. A developed interface between the L04 tools and the InSITE/DTA integrated model will allow reporting of user reliability for policy proposals. The simulated model reliability measures will be consistent with existing SHA performance measures developed from probe vehicle data. Staff will continue supporting SHA's initiative to transfer the InSITE urban model to the statewide model framework (MSTM 2.0). Coordination of InSITE and MSTM 2.0 inputs, model parameters, and structure will ensure consistency between the two tools and foster a collaborative approach in maintenance, enhancements, data collection activities and analysis interpretation.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

Staff, working cooperatively with MDOT modal agencies, will initiate a process to explore and evaluate the region's InSITE ABM, C20 Freight Modeling System and C10, InSITE/DTALite integrated model. An initial discussion with partnering agencies has led to the identification of the greater I-95 corridor between downtown Baltimore and Washington. The corridor analysis would be for a 2012 base year and a 2025 forecast year exploring the disaggregate models simulation results. For household travel, it is envisioned to document Cooperative Forecasting Group corridor demographics and socioeconomic forecasts and synthesized household and population characteristics providing an understanding of persons living and traveling within the corridor and how variables associated with travel are forecasted to change. Tabulating the socioeconomic employment data will provide the base and horizon year location and types of corridor employment. InSITE corridor long term and travel demand will be tabulated. Long term choices of household vehicle availability, transit pass, E-ZPass ownership and usual place of work will be graphed and mapped. InSITE simulated person daily activity patterns (mandatory and non-mandatory) and schedule will be explored including location choice, purpose, mode, time of day, activity duration, and trip stop level decisions for individual and household fully joint non-mandatory travel. Using the C20 Freight Modeling system, urban freight and commercial vehicle tours will be tabulated for the corridor showing pickup/drop off locations, stop duration, and travel by time of day stratified by vehicle type (heavy, light, and passenger car). Simulated household and freight route choice will be competed using both the aggregate static highway assignment and the disaggregate DTA. Simulated aggregate static and disaggregate DTA facility corridor link volumes for an average weekday and time periods will be prepared and compared. Outputs such as total simulated Vehicle Miles of Travel, Volume to Capacity ratios, and hours of delay will be developed. The additional capability that a DTA micro-simulation assignment provides is estimation of duration and location of delay and Level of Service measurements, will be explored. InSITE estimates of tour legs using transit will be assigned to the transit network exploring route estimated boarding.

PRODUCTS/MILESTONES	SCHEDULE
L04, MSTM 2.0, and ABM visualization technical tool coordination and development – conference calls, memos, and data analysis	Ongoing FY 2018-2019
Technical tools corridor exploration and evaluation	Ongoing FY 2018-2019
Data analysis/memos, charts/graphs/tabulations, documentation	Ongoing FY 2018-2019

<u>FY 2018 BUDGET</u>: \$200,000

FY 2019 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.

During Fiscal Year (FY) 2017, Baltimore Metropolitan Council (BMC) continued to support the development an application of the region's trip based model (TBM) – Version 4.4 – and other technical tools. The maintenance of the TBM planning network was completed using a customized ESRI Master Network application. The application allows staff to update link attributes joining the State Highway Administration (SHA) traffic count database and modifying the highway network to reflect short- and long-range plans. In addition, the master network was used to expand the model planning area incorporating Kent Island and relocating the Bay Bridge external station. The application of the TBM was used for sensitivity analysis related to proposed State Implementation Plan (SIP) mobile source emissions budgets. Air quality planning relies on post processing to simulate TBM travel creating several Motor Vehicle Emission Simulator (MOVES) inputs and the execution of the MOVES model. MOVES output databases are gueried and summarized to estimate horizon year mobile source emissions for pollutants of concern. Other TBM maintenance activities include the incorporation of the Round 8B cooperative forecast, which includes demographic and socio economic data for Kent Island. The TBM joint distribution of households by size and income and workers by income were developed using a synthetic population generator (PopGen)2.0 to reflect the projects in Round 8B. A new 2012 base year model using the Kent Island zone structure and Round 8B was developed. The inclusion of Kent Island required staff to calibrate the trip distribution model adding a new K-factor district and develop assumptions on travel at the relocated Kent Island external stations.

Staff, working with the Freight Movement Task Force, developed base year and horizon year forecasts for the Port 2 Point Study. The analysis focused on the redevelopment of the Sparrows Point area and the interaction of proposed warehouse and other uses with the Port of Baltimore. This required the use of Round 8B, which includes Baltimore County estimates of socioeconomic data for Trade Point Atlantic. The highway planning network truck restrictions were reviewed to reflect current truck route policies. Using developer supplied assumptions, staff created a special truck trip table to reflect the assumed drayage between the two locations. Simulated horizon year 2025 volumes were summarized and used in intersection level of service calculation. Staff has participated in follow up meetings assisting with documentation, model assumptions and study findings.

In FY 2017-2018, staff will continue to analyze national and regional databases of observed/revealed travel behavior (mode, traffic counts, and location choice), household and population demographics, and employment characteristics. The tabulations and summaries will be compared with model simulation verifying TBM ability in reflecting current and emerging trends.

Staff will also support the development of the long range transportation plan. Staff will develop a summary of current travel forecasts based on the endorsed Round 8B and adopted Maximize 2040 planning network. The analysis will highlight simulated horizon year travel demand and location of congestion. Staff will assist with the technical scoring of the Baltimore Regional Transportation Board (BRTB) submitted candidate projects. A planning network containing all candidate projects will be coded and used in a horizon year

simulation. Staff will summarize and tabulate simulated results to be used in populating candidate project scoring spreadsheets. Simulation results using the BRTB preferred alternative will be tabulated and summarized for plan performance measures and air quality conformity determination.

Staff continues to maintain and update the region's mobile source emission process. Working closely with the Maryland Department of the Environment (MDE), staff will develop emission process input assumptions that are used to post process TBM simulation results and reflect MOVES input assumptions on vehicle fleet characteristics, fuels, and other policies. The emission process which combines TBM simulation results with MOVES emission factors will be used in the estimation of mobile source emissions for short and long range plans. Estimated horizon year emissions will be used in federal conformity determination.

PRODUCTS/MILESTONES	SCHEDULE
Maintenance of aggregate trip based model/memos, scripts, input datasets	Ongoing
Tabulation and summarization of national, state, and local databases for model comparisons and trend analysis	Ongoing
Support State/Local model applications/emails, meetings, phone support	Ongoing
Long-range plan technical support/memos, spreadsheets, networks, documentation – trend analysis and candidate project scoring	Ongoing
Short and long range plans mobile source emission estimation using MOVES	Ongoing

FY 2018 BUDGET: \$330,000

FY 2019 ESTIMATED BUDGET: \$330,000

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.

During Fiscal Year (FY) 2017, staff continued the transition and enhancement of the region's simulation tools towards full disaggregation of household and non-household travel. Three major enhancements were completed during the year. The region's advanced activity based model, Initiative to Simulate Individual Travel Events (InSITE), was completed and two SHRP2 projects, C10 and C20, were finalized. The model is an advanced disaggregate model simulating household level activity patterns and schedules. The model captures intra household interaction for school escorting and non-mandatory fully joint tours. The model was validated and a series of sensitivity and a temporal (back cast) tests were completed. Working with partnering agencies, staff plans to explore and evaluate InSITE simulation results prior to fully adopting the tool as the region's production model. Partnering with the State Highway Administration (SHA), the region was awarded two SHRP2 model enhancement pilot demonstration grants. Under C20, BMC managed the consultant effort in the development of a Statewide and Regional Freight Modeling System and under the C10, BMC supported SHA in the integration of the InSITE model with a dynamic traffic assignment, DTALite. The C20 effort has led to the development of a long distance supply chain model, urban freight touring model, and a commercial vehicle model. The disaggregate urban freight touring and commercial vehicle model generates freight tour rosters simulating trip start and end time, location, and duration for three vehicle types – heavy, light, and passenger vehicles. At the end of FY 2017, the InSITE model was revised to incorporate the C20 freight modeling system and time period aggregate trip tables. The C10 effort has led to the integration of the InSITE model with DTALite. A random distribution was applied to the InSITE half hour (48 time periods) tour rosters periods and to the daily aggregate truck trip tables in order to provide the 15-minute time period resolution used in DTALite. The C10 mesoscopic simulation provides the capabilities to estimate duration and location of delay, while using volume and LOS measurements abandoning V/C ratios. The DTALite simulation allows the region to take advantage of the Value of Time (VOT) estimates at the individual level assigned in InSITE. The log normal VOT distribution allows the testing of tolling scenarios that are sensitivity to individual's VOT.

In FY 2018 and 2019, BMC in partnership with SHA will complete the SHRP2 L04 proof of concept evaluating the incorporation of reliability in simulation and planning models. The L04 project was initiated in the fourth quarter of FY 2017 and scheduled for 15 months to complete. The L04 project will use the scenario manager and trajectory processor with the integrated InSITE/DTALite model in simulating weather, incidents, and special events as appose to "average" day. The project will use existing probe vehicle data in the identification and analysis of model parameters. An integration plan and interface will be developed assisting in the conduction of analysis. The L04 proof of concept reliability simulation measures provide the capability in generating horizon year network alternative performance measure consistent with SHA observed probe vehicle measurements.

BMC will also partner with SHA to revise the InSITE/DTALite integrated model. The initial model incorporated the aggregate daily truck trip tables, which have since been replaced with the C20 Freight Modeling System. The DTALite mesoscopic 15-minute simulation can use the simulated trip start and end time from the C20 freight tour rosters eliminating the daily aggregate time period truck trip table factors. DTALite simulated performance measurements can be extended to the entire tour for each vehicle.

BMC will form a working group with the goal to apply and evaluate InSITE, C20 Freight Modeling System, and Integrated InSITE/DTALite. The working group will evaluate different methods in applying the model in exploring ways to reduce model run time. The InSITE model converges in 5 days and the integrated model converges in 14 days, constraining the number of alternatives that could be completed within a project schedule. Staff will explore methods such as using a sample of the population, reducing the number of vehicle classes in assignment, and incorporation of a relational database to reduce runtime while reaching convergence. All three models generate large databases (C10 model developers have suggest a minim of 1 terabyte of disk storage per scenario) containing long term choices, travel patterns, schedule, purpose, model, location, time of day, and vehicle trajectory (route choice) for household and freight tours. The working group will develop methods to summarize, tabulate, and visualize simulated output.

Staff will independently evaluate InSITE, C20 Freight Modeling System, and Integrated InSITE/DTALite related to BRTB activities. Staff will update the mobile source emission model to incorporate both the InSITE static highway assignment and the C10 mesoscopic vehicle trajectories evaluating the source type change in running emissions. InSITE provides horizon year estimates of household vehicle ownership and activity duration. These simulation results can be used to update the emission process horizon year source type population and the fraction of hot/cold/stabilized conditions. The population synthesizer (PopGen 2.0) estimates population characteristics at the TAZ level. These estimates can provide a greater understanding of forecasted population and support greater scenario testing of the linkage between persons and travel.

Staff will apply the InSITE, C20, and integrated InSITE/DTALite model to the I-95 corridor connecting downtown Baltimore with Washington. A 2012 base year and 2025 horizon year will be simulated. Staff will summarize and tabulate simulation travel results for corridor residents and person traveling into the corridor for mandatory and non-mandatory activity. A presentation will be made to BRTB subcommittees highlighting microsimulation capabilities in supporting local and regional planning initiatives.

PRODUCTS/MILESTONES	SCHEDULE
 Incorporation of reliability in simulation and planning models – SHRP2 L04 Identification of parameters, integration plan, input development Development of interface, analysis using integration, and documentation 	FY 2018 - 2019
Tool enhancement – InSITE and InSITE/DTALite	FY 2018 - 2019
 Disaggregate model base and horizon year corridor demonstration Disaggregate demographic summarization Travel demand summarization and performance measurements 	Ongoing
 Disaggregate model simulation related to BRTB activities Update mobile source emission process Coordinate analysis with BRTB subcommittees 	Ongoing

FY 2018 BUDGET: \$300,000

FY 2019 ESTIMATED BUDGET: \$300,000

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.

During Fiscal Year (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. After receiving training on the TIP database, jurisdictions and agencies submitted, viewed and edited their TIP projects for the 2016-2019 TIP call for projects. The 2016-2019 TIP was the first TIP document produced entirely with the web-based platform. In FY 2016, staff worked to integrate necessary updates and functionality into the TIP system based on observations made during the development of the 2016-2019 TIP.

In FY 2016, 2014-2017 TIP amendments were considered through the end of September. The BRTB voted on the 2016-2019 TIP in July, with approval from federal agencies received in October. The published 2016-2019 TIP was made available online in Portable Document Format (PDF) form as well as in a searchable database and map via the new web-based TIP system. A listing of projects with federally obligated funds from the previous year's TIP's annual element was published within ninety (90) days after the end of FY 2016. Staff reviewed and coordinated with the region's conformity determination in the processing of 20 amendments and 16 administrative modifications to the 2016-2019 TIP.

Also in FY 2016, BRTB members began to prepare the FY 2017-2020 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 addition to the web-based tools provided by the TIP database, staff developed an interactive project map for the 2017-2020 TIP. This map was well received by the BRTB and advisory committees and continue during the development of future TIP documents.

FY 2017 followed a similar process, with a brief period for the consideration of amendments to the 2016-2019 TIP. The BRTB approved the 2017-2020 TIP in July, with federal approval following in September. A listing of projects with federally obligated funds from the previous year's TIP's annual element was published within ninety (90) days after the end of FY 2017. BRTB members began to prepare the FY 2018-2021 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. Staff reviewed and coordinated with the region's conformity determination in the processing of 13 amendments and 12 administrative modifications to the 2017-2020 TIP (as of January 2017).

A similar process to FY 2017 will take place in FY 2018 and FY 2019. In keeping with current surface transportation legislation, 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 any given fiscal year. Over the two years there will be an analysis of TIP projects and the relationship to performance measures. Staff met with Maryland Department of Transportation (MDOT) and State Highway Administration (SHA) in FY 2017 to understand how projects move into the Federal Highway Administration's (FHWA) Financial Management Information System (FMIS) and ways to reduce amendments. Further efforts to reduce the number of and streamline the processing of amendments and administrative modifications will be pursued.

Finally, staff will continue to work with staff for the online TIP tool to integrate customized updates that streamline the production of the TIP document, the processing of amendments, and the presentation of this information to the public.

PRODUCTS/MILESTONES	SCHEDULE
Implement new cloud-based TIP System	Throughout both Fiscal Years
Approval of the FY 2018 – 2021 TIP	1st Quarter of FY 2018
Approval of the FY 2019 – 2022 TIP	1 st Quarter of FY 2019
FY 2017 Obligated Listing Development	1st Quarter of FY 2018
FY 2018 Obligated Listing Development	1st Quarter of FY 2019

<u>FY 2018 BUDGET</u>: \$110,000

FY 2019 ESTIMATED BUDGET: \$110,000

ENVIRONMENTAL PLANNING

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TASK: ENVIRONMENTAL PLANNING

<u>PURPOSE</u>: 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.

During Fiscal Years (FY) 2016 and 2017 the following activities were completed:

Environmental Coordination: Staff has been coordinating with State Highway Administration (SHA) to keep updated about the status of their environmental mitigation efforts and climate change vulnerability assessment. Staff participates in Interagency Review Meetings hosted by SHA. Staff maintains interactive mapping on the Baltimore Metropolitan Council (BMC) web site. The mapping contains environmental and historic resource data layers overlaid with long range transportation plan projects.

Interagency Consultation Group (ICG): The ICG is scheduled to meet six times annually to discuss topics such as conformity determination, the development of motor vehicle emission budgets for the 2008 8-hour ozone maintenance State Implementation Plan (SIP), the air quality status of the region, and air quality requirements of Transportation Improvement Program (TIP) amendments. ICG working group meetings were held to address SIP budget development and potential inputs to the Motor Vehicle Emission Simulator (MOVES) model. The conformity determinations addressed include: 1) the Conformity Determination of the amended FY 2016-2019 TIP and Maximize2040 2) the Conformity Determination of the 2017-2020 TIP and the amended Maximize2040. In addition, there were two conformity determinations and regional emissions analyses to address Plan amendments.

Air Quality Outreach: In FY 2016 and FY 2017, 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 intraregional conferences, and conducting outreach at local festivals, special events, and Bike to Work Day. Staff contributed news articles for BMC publications to share information on air quality monitor data and air quality planning status and requirements.

Congestion Mitigation and Air Quality (CMAQ): Funding has not been made available. Staff has tracked projects that were awarded funding in prior years.

During FY 2018, staff will work with local jurisdictions to explore implementation potential for emission reduction projects. This could potentially include items such as electric vehicle infrastructure or idle reduction promotion. Staff will work to share information with local jurisdictions on educational and grant opportunities related to climate change adaptation and resiliency.

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 next 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. Staff will work with the ICG Technical Working Group to coordinate on the development of SIP budgets for the 2008 ozone maintenance SIP.

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 2018 BUDGET: \$330,000

FY 2019 ESTIMATED BUDGET: \$330,000

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. 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.

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) 2016 and 2017, 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 were developed separately for both the Conformity Determination of the amended FY 2016-2019 TIP and Maximize2040 and the Conformity Determination of the amended Maximize2040. Also, staff provided technical assistance on the motor vehicle emissions budget development process for the 2008 8-hour ozone maintenance SIP.

In FY 2018, staff, in coordination with MDOT and MDE will continue to conduct the conformity determination of the 2018-2021 TIP and the amended *Maximize2040*. Working through the Interagency Consultation Group (ICG) process and its members, staff will conduct this conformity determination using methodologies for 8-hour ozone which have been approved by EPA. In the last two quarters of FY 2018, staff will begin work on the conformity determination of the FY 2019-2022 TIP and amended *Maximize2040*.

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.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
Conduct conformity analysis of the 2018-2021 TIP and amended <i>Maximize2040</i>	1st Quarter FY 2018
Conduct conformity analysis of the 2019-2022 TIP and amended <i>Maximize2040</i>	3 rd & 4 th Quarters FY 2018
Prepare memorandums on Plan and TIP amendments	Throughout Fiscal Year

<u>FY 2018 BUDGET</u>: \$120,000

FY 2019 ESTIMATED BUDGET: \$120,000

APPENDIX A

FY 2018-2019 BUDGET DETAILS

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FY 2018 UPWP BUDGET SOURCES AND USES

SOURCES

	FHWA	FTA	MDOT	LOCAL	TOTAL
FY 18 Appropriations	\$3,518,288	\$1,222,190	\$680,500	\$1,048,783	\$6,469,761
FY 17 Carryover	\$1,624,807	\$610,047			\$2,234,854
FY 18 Funds Available	\$5,143,095	\$1,832,237	\$680,500	\$1,048,783	\$8,704,615

USES

BMC Staff Consultants	\$5,000,000 \$1,805,000
BMC Total	\$6,805,000
City of Annapolis	\$48,890
Anne Arundel County	\$323,020
Baltimore City	\$392,785
Baltimore County	\$121,850
Carroll County	\$213,505
Harford County	\$143,930
Howard County	\$353,930
Queen Anne's County	\$243,505
Local Total	\$1,841,415
TOTAL USES	\$8,646,415

FY 2019 UPWP BUDGET PLAN

SOURCES

	FHWA	FTA	MDOT	LOCAL	TOTAL
FY 19 Appropriations	\$3,518,288	\$1,222,190	\$539,500	\$644,713	\$5,924,691
FY 19 Funds Available	\$3,518,288	\$1,222,190	\$539,500	\$644,713	\$5,924,691

<u>USES</u>

BMC Staff Consultants	\$4,940,000 \$455,000
BMC Total	\$5,395,000
City of Annapolis	\$21,665
Anne Arundel County	\$54,765
Baltimore City	\$84,585
Baltimore County	\$83,890
Carroll County	\$55,130
Harford County	\$85,450
Howard County	\$85,450
Queen Anne's County	\$55,130
Local Total	\$526,065
TOTAL USES	\$5,921,065

* To be updated and adopted in FY 2019 Budget Addendum in April 2018

** This Budget Plan assumes no carryover from FY 2018

FY 2018 BUDGET BY TASK & FUND SOURCE

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	FHWA	FTA	MDOT	LOCAL	TOTAL
UPWP Management	554,249	198,551	74,000	114,200	941,000
Public Participation & Comm. Outreach	117,800	42,200	20,000	20,000	200,000
Professional Consultant Services	497,705	178,295	84,500	84,500	845,000
Long-Range Planning	88,350	31,650	15,000	15,000	150,000
Human Service Transportation Coordination	47,120	16,880	8,000	8,000	80,000
Congestion Management Process	100,130	35,870	17,000	17,000	170,000
Operations Planning	82,460	29,540	14,000	14,000	140,000
Safety Planning and Analysis	82,460	29,540	14,000	14,000	140,000
Bicycle and Pedestrian Planning	101,532	36,372	12,000	22,476	172,380
Freight Mobility Planning	82,460	29,540	14,000	14,000	140,000
Transit Planning and Ladders of Opportunity	147,250	52,750	25,000	25,000	250,000
Emergency Preparedness Planning	64,790	23,210	11,000	11,000	110,000
Transportation Equity Planning	58,900	21,100	10,000	10,000	100,000
Development Monitoring	141,360	50,640	24,000	24,000	240,000
Monitoring System Perform. & Reliability	106,020	37,980	18,000	18,000	180,000
Databases and Travel Surveys	94,240	33,760	16,000	16,000	160,000
GIS Activities	213,053	76,323	34,000	38,344	361,720
Demographic and Socioeconomic Forecasting	372,672	133,504	24,000	102,544	632,720
Analysis of Regional Data and Trends	64,790	23,210	11,000	11,000	110,000
Technical Analysis in Support of State Initiatives	117,800	42,200	20,000	20,000	200,000
Current Simulation Tools	194,370	69,630	33,000	33,000	330,000
Expanding the Region's Toolset	176,700	63,300	30,000	30,000	300,000
Transportation Improvement Program	84,577	30,299	11,000	17,719	143,595
Environmental Planning	194,370	69,630	33,000	33,000	330,000
Air Quality Confomity Analysis	70,680	25,320	12,000	12,000	120,000
Subarea Analysis (Local)	565,440	202,560	0	192,000	960,000
Household Travel Survey	353,400	126,600	60,000	60,000	600,000
Transportation Data Books	153,140	54,860	18,000	34,000	260,000
Regional MTA/LOTS Bus Stop Study	164,920	59,080	18,000	38,000	280,000
Tatal		4 00 4 00 4		4 0 40 700	

Total

5,092,738 1,824,394 680,500 1,048,783 8,646,415

FY 2019 BUDGET PLAN BY TASK & FUND SOURCE

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FHWAFTAMDOTLOCALTOTALUPWP Management493,466171,13568,00098,150830,750Public Participation & Comm. Outreach118,80041,20020,000200,000200,000Professional Consultant Services270,27093,73045,50045,500455,000Long-Range Planning89,10030,90015,000150,000150,000Human Service Transportation Coordination47,52016,4808,00080,000Congestion Management Process100,98035,02017,000170,000Operations Planning83,16028,84014,000140,000Bicycle and Pedestrian Planning94,61232,81212,00019,856159,280Freight Mobility Planning83,16028,84014,000140,000140,000
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Long-Range Planning89,10030,90015,00015,000150,000Human Service Transportation Coordination47,52016,4808,00080,000Congestion Management Process100,98035,02017,000170,000Operations Planning83,16028,84014,000140,000Safety Planning and Analysis83,16028,84014,000140,000Bicycle and Pedestrian Planning94,61232,81212,00019,856159,280Freight Mobility Planning83,16028,84014,000140,000
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Freight Mobility Planning 83,160 28,840 14,000 140,000
Transit Planning and Ladders of Opportunity 148,500 51,500 25,000 250,000
Emergency Preparedness Planning 65,340 22,660 11,000 11,000
Transportation Equity Planning 59,400 20,600 10,000 100,000
Development Monitoring 142,560 49,440 24,000 240,000
Monitoring System Perform. & Reliability 106,920 37,080 18,000 180,000
Databases and Travel Surveys 95,040 32,960 16,000 160,000
GIS Activities 211,636 73,396 34,000 37,258 356,290
Demographic and Socioeconomic Forecasting 317,526 110,118 24,000 82,911 534,555
Analysis of Regional Data and Trends 65,340 22,660 11,000 110,000
Technical Analysis in Support of State Initiatives 118,800 41,200 20,000 200,000
Current Simulation Tools 196,020 67,980 33,000 330,000
Expanding the Region's Toolset 178,200 61,800 30,000 300,000
Transportation Improvement Program 80,303 27,849 11,000 16,038 135,190
Environmental Planning 196,020 67,980 33,000 33,000 330,000
Air Quality Confomity Analysis 71,280 24,720 12,000 120,000
Total 3,517,113 1,219,739 539,500 644,713 5,921,065

*To be updated and adopted in FY 2019 Budget Addendum in April 2018

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 2018-2019 UNIFIED PLANNING WORK PROGRAM

				-		-				
WORK TASKS	BMC SHARE	ANNAPOLIS SHARE	ANNE ARUNDEL COUNTY SHARE	BALTIMORE CITY SHARE	BALTIMORE COUNTY SHARE	CARROLL COUNTY SHARE	HARFORD COUNTY SHARE	HOWARD COUNTY SHARE	QUEEN ANNE'S COUNTY SHARE	TOTAL
UPWP Management	\$740,000	\$20,000	\$25,000	\$25,000	\$25,000	\$28,000	\$25,000	\$25,000	\$28,000	\$941,000
Public Part. & Comm. Outreach	\$200,000									\$200,000
Professional Consultant Services	\$845,000									\$845,000
Long-Range Planning	\$150,000									\$150,000
Human Service Transportation Coordination	\$80,000									\$80,000
Congestion Management Process	\$170,000									\$170,000
Operations Planning	\$140,000									\$140,000
Safety Planning and Analysis	\$140,000									\$140,000
Bicycle and Pedestrian Planning	\$120,000	\$5,000	\$5,000	\$5,000	\$5,000	\$11,190	\$5,000	\$5,000	\$11,190	\$172,380
Freight Mobility Planning	\$140,000									\$140,000
Transit Planning and Ladders of Opportunity	\$250,000									\$250,000
Emergency Preparedness Planning	\$110,000									\$110,000
Transportation Equity Planning	\$100,000									\$100,000
Development Monitoring	\$240,000									\$240,000
Monitoring System Perform. & Reliability	\$180,000									\$180,000
Databases and Travel Surveys	\$160,000									\$160,000
GIS Activities	\$340,000	\$2,620	\$2,620	\$2,620	\$2,620	\$3,000	\$2,620	\$2,620	\$3,000	\$361,720
Demographic and Socioeconomic Forecasting	\$240,000		\$37,400	\$70,000	\$76,230	\$28,315	\$76,230	\$76,230	\$28,315	\$632,720
Analysis of Regional Data and Trends	\$110,000									\$110,000
Technical Analysis in Support of State/Local Initiatives	\$200,000									\$200,000
Current Simulation Tools	\$330,000									\$330,000
Expanding the Region's Toolset	\$300,000									\$300,000
Transportation Improvement Program	\$110,000	\$1,270	\$3,000	\$10,165	\$3,000	\$3,000	\$5,080	\$5,080	\$3,000	\$143,595
Environmental Planning	\$330,000									\$330,000
Air Quality Conformity Analysis	\$120,000									\$120,000
Anne Arundel Subarea			\$220,000							\$220,000
Baltimore City Subarea				\$250,000						\$250,000
Carroll County Subarea						\$130,000				\$130,000
Howard County Subarea								\$210,000		\$210,000
Queen Anne's County Subarea									\$150,000	\$150,000
Household Travel Survey (consultant)	\$600,000									\$600,000
Transportation Data Books (consultant)	\$180,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$260,000
Regional MTA/LOTS Bus Stop Study (consultant)	\$180,000	\$10,000	\$20,000	\$20,000			\$20,000	\$20,000	\$10,000	\$280,000
TOTAL	\$6,805,000	\$48,890	\$323,020	\$392,785	\$121,850	\$213,505	\$143,930	\$353,930	\$243,505	\$8,646,415

FY 2018 BUDGET BY TASK AND PROJECT SPONSOR

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

FY 2019 BUDGET PLAN BY TASK AND PROJECT SPONSOR

WORK TASKS	BMC SHARE	ANNAPOLIS SHARE	ANNE ARUNDEL COUNTY SHARE	BALTIMORE CITY SHARE	BALTIMORE COUNTY SHARE	CARROLL COUNTY SHARE	HARFORD COUNTY SHARE	HOWARD COUNTY SHARE	QUEEN ANNE'S COUNTY SHARE	TOTAL
UPWP Management	\$680,000	\$15,000	\$18,750	\$18,750	\$18,750	\$21,000	\$18,750	\$18,750	\$21,000	\$830,750
Public Part. & Comm. Outreach	\$200,000									\$200,000
Professional Consultant Services	\$455,000									\$455,000
Long-Range Planning	\$150,000									\$150,000
Human Service Transportation Coordination	\$80,000									\$80,000
Congestion Management Process	\$170,000									\$170,000
Operations Planning	\$140,000									\$140,000
Safety Planning and Analysis	\$140,000									\$140,000
Bicycle and Pedestrian Planning	\$120,000	\$3,750	\$3,750	\$3,750	\$3,750	\$8,390	\$3,750	\$3,750	\$8,390	\$159,280
Freight Mobility Planning	\$140,000									\$140,000
Transit Planning and Ladders of Opportunity	\$250,000									\$250,000
Emergency Preparedness Planning	\$110,000									\$110,000
Transportation Equity Planning	\$100,000									\$100,000
Development Monitoring	\$240,000									\$240,000
Monitoring System Perform. & Reliability	\$180,000									\$180,000
Databases and Travel Surveys	\$160,000									\$160,000
GIS Activities	\$340,000	\$1,965	\$1,965	\$1,965	\$1,965	\$2,250	\$1,965	\$1,965	\$2,250	\$356,290
Demographic and Socioeconomic Forecasting	\$240,000		\$28,050	\$52,500	\$57,175	\$21,240	\$57,175	\$57,175	\$21,240	\$534,555
Analysis of Regional Data and Trends	\$110,000									\$110,000
Technical Analysis in Support of State/Local Initiatives	\$200,000									\$200,000
Current Simulation Tools	\$330,000									\$330,000
Expanding the Region's Toolset	\$300,000									\$300,000
Transportation Improvement Program	\$110,000	\$950	\$2,250	\$7,620	\$2,250	\$2,250	\$3,810	\$3,810	\$2,250	\$135,190
Environmental Planning	\$330,000									\$330,000
Air Quality Conformity Analysis	\$120,000									\$120,000
TOTAL	\$5,395,000	\$21,665	\$54,765	\$84,585	\$83,890	\$55,130	\$85,450	\$85,450	\$55,130	\$5,921,065

FY 2018 SUBAREA ANALYSIS - LOCALS PROJECTS & FUND SOURCE

WORK TASKS	FHWA	FTA	MDOT	LOCAL	TOTAL
Anne Arundel County Multimodal Transportation Center Feasibility Study (\$110,000) Transportation Functional Master Plan (\$110,000)	\$129,580	\$46,420	\$0	\$44,000	\$220,000
Baltimore City Evacuation Planning	\$147,250	\$52,750	\$0	\$50,000	\$250,000
Carroll County Transportation Master Plan	\$76,570	\$27,430	\$0	\$26,000	\$130,000
Howard County Complete Streets (FY 2017 Project Expansion)(\$60,000) Route 1 Safety Audit (\$100,000) Corridor Vanpool Program Study (\$50,000)	\$123,690	\$44,310	\$0	\$42,000	\$210,000
Queen Anne's County Route 8 Study	\$88,350	\$31,650	\$0	\$30,000	\$150,000
SUBAREA TOTALS	\$565,440	\$202,560	\$0	\$192,000	\$960,000

CHART DEPICTING PARTICIPANTS WITH EACH TASK

FY 2018-2019 WORK PROGRAM PARTICIPANTS

Balting								1		oubjic .				
Baltimore Mercogolican Council	R-US	Balti	tim	Carry	Harry .	Queen are country	An	ADDO	Dett. of Node	or es	pinate nt onnet	Stat	noiders	
Mericogolitan Council	napolis	Baltini Count	ore City	Carton Court	Halton Court	HOW COURT	CUN	Count	Mode	ola noine	onnet	EUDPOL	nolders	
UPWP Management	х	х	х	х	х	х	х	х	х	0				x
Public Participation & Community Outreach	х	0	0	0	0	0	0	0	0	0	0	0	0	0
Professional Consultant Services	0												х	
Long-Range Planning	х	0	0	0	0	0	0	0	0	0	0	0		ο
Congestion Management Process	х				0					о				
Operations Planning	х	0	0	0	0	0	о	0	о	о				ο
Safety Planning & Analysis	х	0	0	0	0	0	о	0	0	о				ο
Bicycle & Pedestrian Planning	х	х	х	х	х	х	х	х	х	0	0	0		0
Freight Mobility Plan	х									0				0
Human Service Coordination	х									0				ο
Transit & Ladders of Opportunity	х									0				0
Emergency Preparedness Planning	х									0				
Transportation Equity Planning	х									0				0
Development Monitoring	х													
Monitoring System Performance & Reliability	х									0				
Databases & Travel Surveys	х													
GIS Activities	х	х	х	х	х	х	х	х	х					
Demographic & Socioeconomic Forecasting	х		х	х	х	х	х	х	х		0			
Analysis of Regional Data & Trends	х													
Technical Analysis in Support of State Initiatives	х									0				
Current Simulation Tools	х									0				
Expanding the Region's Toolset	х									0				
Transportation Improvement Program	х	х	х	х	х	х	х	х	х	0				0
Environmental Planning	х									0		0		ο
Air Quality Confomity Analysis	х									0		0		0
Subarea Analysis	х		х	х		х		х	х	0			х	0

x = receives funding

o = helps to coordinate activity

APPENDIX B

LOCAL PARTICIPANTS: CORE & SUBAREA PROJECTS

CITY OF ANNAPOLIS ANNE ARUNDEL COUNTY BALTIMORE CITY BALTIMORE COUNTY CARROLL COUNTY HARFORD COUNTY HOWARD COUNTY QUEEN ANNE'S COUNTY THIS PAGE LEFT BLANK INTENTIONALLY.

PROJECT: UPWP MANAGEMENT

<u>PURPOSE</u>: 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 2018-2019 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	Throughout Fiscal Voar	
financial reports for the FY 2018-2019 UPWP	Throughout Fiscal Year	
Budget amendments for FY 2018-2019	As Necessary	
Future UPWP submittal by each local BRTB member	2nd Quarter	
Completion of formal grant acceptance process for FY 2018-2019	4th Quarter	

PARTICIPANTS:	City of Annapolis	\$20,000
	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
	Queen Anne's County	\$28,000
FY 2018 BUDGET:		\$201,000

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 2018-2019 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

PARTICIPANTS:	City of Annapolis	\$5 <i>,</i> 000
	Anne Arundel County	\$5,000
	Baltimore City	\$5,000
	Baltimore County	\$5 <i>,</i> 000
	Carroll County	\$11,190
	Harford County	\$5,000
	Howard County	\$5,000
	Queen Anne's County	\$11,190

\$52,380

PROJECT: REGIONAL GIS COORDINATION

<u>PURPOSE</u>: To coordinate and assist with the various technical and outreach activities in conjunction with the Baltimore Region Geographic Information Systems Committee.

The Baltimore Region Geographic Information Systems Committee (BRGISC) was established in 2011 and is staffed by the BMC. Its membership consists of GIS managers of the Cities of Annapolis and Baltimore and the Counties of Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne's. The committee was formed to provide a forum for sharing communication among jurisdictions on national, state and local GIS applications and resources. The BRGISC has agreed to an emergency data sharing protocol for delivering individual county/city level map resources among local governments.

The BRGISC meets quarterly to discuss topics that are pending with state and national agencies as well as utilities and private enterprises. Current projects include integrating the regional centerline and address point layer with the state data set, creating a regional bicycle trails layer, and collaborating on GIS data and system changes to prepare for Next Generation 911.

FY 2018-2019 PERFORMANCE OBJECTIVES:

- 1. Attend BRGISC Meetings.
- 2. Provide data and work efforts toward regional projects.
- 3. Review and comment on materials as presented.
- 4. Assist the BPAG in creation of a regional online map of bicycle facilities.

	PRODUCTS/MILESTONES		SCHEDULE
Attend BRGISC Me	etings		Throughout Fiscal Year
	City of Appendix	\$2,620	
PARTICIPANTS:	City of Annapolis Anne Arundel County	\$2,620 \$2,620	
	Baltimore City	\$2,620	
	Baltimore County	\$2,620 \$2,620	
	Carroll County	\$3,000	
	Harford County	\$2,620	
	, Howard County	\$2,620	
	Queen Anne's County	\$3,000	
FY 2018 BUDGET:		\$21,720	

PROJECT: DEMOGRAPHIC AND SOCIOECONOMIC FORECASTING

PURPOSE: To generate socioeconomic and demographic data for the regional forecasting process. To provide technical input to the Cooperative Forecasting Group (CFG) that is responsible for reporting updates to changes in local land use patterns and associated developments in the region.

In FY 2014, the CFG developed population, household, and employment forecasts for each jurisdiction by small area for 2010 through 2040 that together comprise the Round 8B Cooperative Forecasts. In the coming two fiscal years the CFG will maintain and update as appropriate, the cooperative forecasts related to each of their jurisdictions.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Prepare updated socio-economic and demographic jurisdictional forecasts at the level of transportation analysis zones for 2015 2045.
- 2. Provide updates where necessary on major new developments or facilities that impact existing forecasts.
- 3. Prepare documentation on population, household and employment forecast methodologies.

PRODUCTS/MILESTONES	SCHEDULE
Review and report on forecasts for population, households and employment	2nd Quarter
Document methodologies used to generate forecasts	3rd Quarter
Provide updates on major new developments that affect existing forecasts	Throughout Fiscal Year

PARTICIPANTS:	Anne Arundel County	\$37,400
	Baltimore City	\$70,000
	Baltimore County	\$76,230
	Carroll County	\$28,315
	Harford County	\$76,230
	Howard County	\$76,230
	Queen Anne's County	\$28,315

FY 2018 BUDGET:	\$392,720
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PROJECT: TRANSPORTATION IMPROVEMENT PROGRAM

<u>PURPOSE</u>: 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.

FY 2018 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 st Quarter
Submit local TIP component of 2018-2021 and 2019-2022 documents	3 rd Quarter
Revise local TIP component per comments and review draft TIP document	3 rd Quarter
Final revisions to annual TIP	4 th Quarter

PARTICIPANTS:	City of Annapolis	\$1,270
	Anne Arundel County	\$3,000
	Baltimore City	\$10,165
	Baltimore County	\$3,000
	Carroll County	\$3,000
	Harford County	\$5 <i>,</i> 080
	Howard County	\$5 <i>,</i> 080
	Queen Anne's County	\$3,000
FY 2018 BUDGET:		\$33,595

ANNE ARUNDEL COUNTY SUBAREA <u>PROJECT</u>: FEASIBILITY STUDY FOR THE DEVELOPMENT OF A MULTIMODAL TRANSPORTATION CENTER FOR THE STATE CAPITAL

<u>PURPOSE</u>: Identify and ultimately develop a multi-modal Transportation Center to enhance efficiency comfort and safety for all transportation providers and patrons.

The objectives of the study include 1) Propose a location and facilities for a regional multi-modal center, and 2) Determine whether, how and where a multi-modal center could be financed, constructed, and operated within the State's Capital or surrounding area.

The 1994 *Parole Urban Design Concept Plan,* as well as subsequent planning efforts, recommended developing a multi-modal transit center in Parole. This much needed facility could potentially serve as a major transit hub for Annapolis Transit (AT), Maryland Transit Administration (MTA), commercial carriers (Greyhound, Trail ways and Mega Bus), and tour buses and it could provide parking for outbound commuters.

Although the initial site has been preempted, the need for a multi-modal center remains unchanged. It is imperative that the city, county, and state reach agreement on the location, scope, and program for a multi-modal center to serve the Anne Arundel County Area.

The 2006 Draft Annapolis Regional Transportation Vision and Master Plan proposed a feasibility study (I. C. (6), Vol. II, pages 82-83) to determine whether, how and where such a multi-modal center could be constructed, operated, and financed and to address a broad range of transportation issues, including:

- All-day parking demand for outbound commuters and the ability of a transit center/mixed-use site to accommodate it;
- Moving the outbound commuter parking from the Truman Lot or retaining it and providing additional outbound commuter parking in a multi-modal center;
- Ability to successfully accommodate a multi-modal center as part of a mixed-use retail, office, and residential development;
- Access and potential delays for buses and other vehicles in and around the Anne Arundel County area;
- The potential for a visitor center to serve Anne Arundel County and other regional tourist attractions and to accommodate tour buses;
- Alternative sites for all or some of these functions if a multi-modal center cannot accommodate them all.

The complementary functions and relationship between a multi-modal center and use of the County and City parking facilities in Annapolis.

The need for this facility was affirmed in the (Chapter 4, Policy 3), stating that there is the need to create a regional transit system to serve the needs of Annapolis commuters, residents and visitors. Specifically, Policy 3.3 addresses the need for a multi-modal transportation hub as a primary terminal for regional and local transit, taxis and airport shuttles promoted through a partnership of local agencies and the private sector. The need for a facility is also reaffirmed in both the General Development Plan (2009) Chapter 9 and reiterated in the Corridor Growth Management Plan (2012) in the recommendations for US 50 Corridor.

As part of the study, metrics relating to the design and requirements of a multi-modal transportation center would be generated for use both regionally and nationally in the design and feasibility of transportation hubs. These metrics would include: 1) Parking demand, usage and space requirement, 2) Building facility requirements, 3) Tour Bus parking requirements, 4) Regional access needs, 5) Downtown shuttle facilities and services, and 6) Transit facility requirements.

FY 2018 PERFORMANCE INDICATORS:

- 1. Develop a work program and RFP to select successful consultant to undertake the work program.
- 2. Develop multi-modal center feasibility options for locations, facilities and funding.
- 3. Host a public meeting to share potential location and facility options. Also, solicit feedback on feasibility proposals.
- 4. Prepare a final report with changes recommended by public, develop design and requirement metrics for transportation centers and develop a plan for constructing, operating and financing a regional multimodal transportation center.

PRODUCTS/MILESTONES	SCHEDULE
Send out RFP and select a successful candidate.	1 st Quarter
Have consultant develop multi-modal center options for locations, facilities and funding.	2 nd Quarter
Hold a public hearing to present preliminary findings and to gather feedback on proposed locations and facilities	3 rd Quarter
Complete planning study with recommendations for a development plan	4 th Quarter

PARTICIPANTS: Anne Arundel County, Consultant

FY 2018 BUDGET: \$110,000

ANNE ARUNDEL COUNTY SUBAREA

PROJECT: TRANSPORTATION FUNCTIONAL MASTER PLAN

<u>PURPOSE</u>: The purpose is to complete the County's Transportation Functional Master Plan (TFMP). The project will complete the mobility and accessibility needs in travel corridors which fall below the volume and functional classification threshold of the prior Corridor Growth Management Plan study (CGMP), but which have a disproportionate impact on the regional network.

The County's Transportation Functional Master Plan, a multi-year endeavor to update the Transportation element of the County General Development Plan (GDP). The study will integrate the findings and recommendations regarding the corridors study components. The components are: Corridor Growth Management Plan (CGMP), Pedestrian and Bicycle Master Plan Update (PBMP), Complete Streets Guidance (CSG), Major Intersections and Important Facilities (MIIF), and Transit Development Plan (TDP).

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Review and Assess exiting plans, studies and data.
- 2. Develop Vision Goals Objectives and Performance Measures
- 3. Conduct public outreach events.
- 4. Integrate all components of the TFMP
- 5. Produce Final Plan

PRODUCTS/MILESTONES	SCHEDULE
Review and Assess exiting plans, studies and data.	1 st Quarter
Develop Vision Goals Objectives and Performance Measures	2 nd Quarter
Conduct public outreach events.	Throughout Fiscal Year
Integrate all components of the TFMP.	4 th Quarter
Produce Final Plan.	4 th Quarter

PARTICIPANTS: Anne Arundel County

FY 2018 BUDGET: \$110,000

BALTIMORE CITY SUBAREA

PROJECT: BALTIMORE CITY AND ADJACENT COUNTIES EVACUATION PLANNING

PURPOSE: The purpose of this project is to prepare a comprehensive evacuation plan for Baltimore City, using the evacuation plan template prepared for the region through a FEMA Technical Assistance Grant effort completed in FY 2016.

The City of Baltimore is vulnerable to numerous naturally occurring hazards as well as man-made threats that could force neighborhoods or even large portions of the city to evacuate. An evacuation order can be given with advance notice of an imminent disaster, such as a hurricane, or with no-notice during an unforeseen disaster. Regardless of when an evacuation is ordered, the process of moving large numbers of people safely and efficiently is incredibly complex, and, for large evacuations, local and state resources will be stressed. Coordination between City agencies, and with surrounding jurisdictions, state agencies, and numerous other partners is critical and must be established in advance of any potential evacuation.

This project will be led by staff from City DOT, Police, and Mayor's Office of Emergency Management who will work closely with other City agencies as well as with neighboring jurisdictions, state and federal agencies, and other critical evacuation partners. Work to prepare the evacuation plan will include: 1) reviewing current best-practices and lessons learned from past events; 2) defining roles and responsibilities for all city agencies; 3) preparing procedures for how to coordinate with neighboring jurisdictions as well as state and federal agencies and other stakeholders; 4) updating standard operating procedures for the City agencies involved in evacuation management; and 5) review of evacuation routes (as identified by Baltimore City agencies and the Baltimore Region Evacuation Traffic Management Support Document) and signage, with recommendations for modifications as deemed necessary. This work will also include developing a plan for recommended training for City staff as well as the development, execution, and assessment of a regional evacuation exercise.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Establish a stakeholder workgroup including representatives from all City agencies involved in evacuation management, neighboring jurisdictions, BMC staff, and state agencies.
- 2. Using the existing evacuation plan template as a guide, develop a draft and final comprehensive evacuation plan.
- 3. Produce an implementation plan including recommended training and incorporation into other city plans and policies.
- 4. Develop, execute, and evaluate a regional evacuation exercise.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

PRODUCTS/MILESTONES	SCHEDULE
Establish and convene a workgroup of applicable stakeholders to assist with development of the updated plan.	1 st Quarter FY 2018
Collect and review existing evacuation planning documents.	1 st Quarter FY 2018
Hold regular meetings with workgroup to develop Evacuation Plan	Throughout Project
Draft any Memorandums of Agreement required between various parties, as needed and identified in the planning process.	3 rd Quarter FY 2018
Develop and circulate a draft evacuation plan for comment and feedback by stakeholder group.	3 rd Quarter FY 2018
Review current city evacuation routes and signage, and make recommendations for modifications as needed.	3 rd & 4 th Quarters FY 2018
Develop implementation recommendations, such as training and exercises and other ongoing needs.	4 th Quarter FY 2018
Deliver the final comprehensive evacuation plan and implementation plan.	4 th Quarter FY 2018
Develop evacuation exercise	3 rd & 4 th Quarters FY 2018
Execute and evaluate evacuation exercise	1 st & 2 nd Quarters FY 2019

PARTICIPANTS: Baltimore City, Baltimore County, Anne Arundel County, Howard County, Harford County, Carroll County, Consultant, MDOT, MTA, MDTA, MEMA, SHA, MSP, BMC.

FY 2018 BUDGET: \$250,000

CARROLL COUNTY SUBAREA

PROJECT: TRANSPORTATION MASTER PLAN

PURPOSE: The Carroll County Roads Plan which was adopted by the County in 1964 has not been evaluated since. This project will develop a mid-level assessment of the mobility and accessibility needs in travel corridors and internal County roadway connections as well as County transportation policies. This Plan will also coordinate these efforts with the eight (8) municipalities in the County. Given that roads do not start and stop at jurisdictional boundaries, this creates a unique challenge for the County in its transportation planning efforts.

The County's Transportation Master Plan is a multi-year endeavor as a recommendation of the County's most recently Adopted 2014 Carroll County Master Plan. This plan will also coordinate this effort with the eight municipalities within the County. The study will integrate the findings and recommendations regarding the study components. The components are:

- Corridor Growth Management Plan
- Pedestrian and Bicycle Master Plan Integration
- Complete Streets Guidance
- Major Intersections and Internal Road Connections
- State Road and County Road Prioritizations for Construction
- Cost Estimates for Recommended Improvements

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Collect data to model County, Municipal and State Transportation networks.
- 2. Conduct public outreach.
- 3. Integrate the components into a comprehensive multimodal functional plan narrative for addressing future transportation needs that meet the goals and objectives of local comprehensive plans.
- 4. Recommendations for implementation efforts and cost estimates.
- **PARTICIPANTS:** Carroll County, Municipalities, Consultant, SHA, BMC

FY 2018 BUDGET: \$130,000

HOWARD COUNTY SUBAREA

PROJECT: CREATION OF COMPLETE STREETS DESIGN MANUAL

PURPOSE: The purpose of this project is to develop a complete streets policy and a Complete Streets Design Manual, via revisions/updates to Howard County's Design Manual to provide the design tools to implement safe and functional streets for everyone.

This project will use consultant expertise to gather the input of working group of stakeholders to draft a Complete Streets section of the Howard County Design Manual. The new manual will tackle a public review and approval process. The participation and support of the working group is critical to the success of the project and the Complete Streets Design Manual. The project will be divided into two phases with a total project costs for the two phase of \$110,000 funded in both the FY 2017 UPWP and the FY 2018 UPWP budget:

- Phase 1: Development of a complete streets policy and a consensus building exercise to develop street designs. (FY 2017 UPWP portion of total project)
- Phase 2: Implement the changes recommended during Phase 1 into the Howard County Design Manual and then advancing the manual to adoption by the county council. (FY 2018 UPWP portion of project)

This project will serve as a blueprint for other local jurisdictions to integrate complete streets concepts and designs into their policies and design standards. This project also reflects the regional consensus, and SHA's policy, to develop and implement Complete Streets Policies.

FY 2017 PERFORMANCE OBJECTIVES:

- 1. Advance complete streets in Howard County from policy to practice.
- 2. Develop the complete streets policy.
- 3. Audit existing design manual with regard to complete streets.
- 4. Through the collaborative process, bring together all Howard County street stakeholders and find consensus on street designs that work for all users with different designs for various contexts.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Advance complete streets in Howard County from policy to practice.
- 2. Create a new/updated Howard County Design Manual Volume 3 to include Complete Streets designs, and accurately reflect and implement the Howard County Complete Streets Policy.
- 4. Provide a best practices blueprint for Complete Streets Policy and Design that other jurisdictions in the Baltimore Metropolitan Area can follow.
- 5. Codify Complete Streets Design in Howard County through County Council legislative approval.

BALTIMORE REGION UPWP FY 2018-2019 UNIFIED PLANNING WORK PROGRAM

	PRODUCTS/MILESTONES	SCHEDULE
•	Develop scope of work with consultant and complete background research including review of best practices for Complete Streets Policies, related Howard County planning documents, and initial progress on draft Howard County Complete Streets Policy. Initiate the first meetings of the Design Manual Working Group, consisting of relevant department heads and decision makers. The group will meet up to 5 times to work through issues and reach consensus on design details that will implement complete streets.	FY 2017-1 st Quarter
•	Complete working group meetings and stakeholder meetings. Incorporate stakeholder feedback into draft policy	FY 2017-2 nd Quarter
•	Complete draft complete streets policy Start audit of Howard County Design Manual Volume 3 and consensus building phase	FY 20173 rd Quarter
•	Complete audit of design manual Complete consensus building phase	FY 2017-4 th Quarter
•	Initiate consultant draft rewrite of Howard County Design Manual Volume 3 Distribute to working group for comment and finalize draft, ready for review by the public, the Public Works Board, the Planning Board and the County Council	FY 2018- 1 st Quarter
•	Complete consultant draft rewrite of Howard County Design Manual Volume 3	FY 2018- 2 st Quarter
•	Complete approval process for the new Howard County Design Manual Volume 3. This will include engagement with the public, the Public Works Board, the Planning Board and the County Council	FY 2018- 3 st Quarter

<u>PARTICIPANTS</u>: Howard County, Consultant

 BUDGET:
 Phase 1:
 \$50,000 (funded under FY 2017 UPWP)

 Phase 2:
 \$60,000 (funded under FY 2018 UPWP)

HOWARD COUNTY SUBAREA

PROJECT: REGIONAL COORDINATION AND PLANNING, CORRIDOR VANPOOL PROGRAM

<u>PURPOSE</u>: Coordinate with Baltimore County, Harford County, Howard County, State Highway Administration and Maryland Transportation Authority to determine the feasibility of a vanpool program along the I-95/I-895 corridor between Harford and Howard Counties, with the potential to include offshoots to Towson and Owings Mills. This project would provide funding and staff support for regional coordination and planning related to the feasibility of a vanpool program along the I-95/I-895 corridor between Harford and Howard Counties, with the potential to include offshoots and Planning related to the feasibility of a vanpool program along the I-95/I-895 corridor between Harford and Howard Counties, with the potential to include offshoots to Towson and Owings Mills.

This project will require planning efforts over a period of several years, including assessing feasibility and implementation of the program. The participation and support of Baltimore County, Harford County, Howard County, State Highway Administration and the Maryland Transportation Authority are critical and the Baltimore Metropolitan Council is an appropriate group to provide the regional coordination. This planning effort will determine if there is enough interest in Baltimore, Harford and Howard Counties to implement government-supported vanpools, explore potential route options, identify fatal flaws and provide preliminary cost estimates. The Corridor Vanpool Program would connect commuters traveling inter-jurisdictionally from one suburban county through Baltimore City via I-95 and I-895 to another suburban county for employment. A program such as this has the potential to mitigate congestion along the corridor.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Develop project management plan, including identifying a core participants group and representatives. Identify broader stakeholder group.
- 2. Develop a scope of work for a consultant. Provide consultant assistance for regional information and coordination among stakeholders.
- 3. Develop project goals and parameters. Identify potential route options.
- 4. Compile data for route options.

PRODUCTS/MILESTONES	SCHEDULE
Identify core participants group and representatives. Identify broader stakeholder group.	1 st Quarter
Identify appropriate consultant support, develop scope and finalize contract.	2 nd Quarter
Develop project goals and parameters. Identify potential route options.	3 rd Quarter
Data gathering for route options	4 th Quarter

PARTICIPANTS: Howard County as project sponsor and lead coordinating with Baltimore County, Harford County, State Highway Administration and the Maryland Transportation Authority

FY 2018 BUDGET: \$50,000

HOWARD COUNTY SUBAREA

PROJECT: SAFETY AUDIT FOR THE US 1 CORRIDOR FROM LAUREL TO HALETHORPE

PURPOSE: Evaluate the current safety of the US 1 corridor and recommend effective safety measures for all road users, including drivers, transit users, cyclists and pedestrians. The US 1 corridor has a clear safety issue, with 7 pedestrian fatalities in one year in the Howard County portion, as well as many motor vehicle crashes causing injury and property damage. This study will assimilate the data on all crashes in the corridor in recent years and investigate trends in crash types and contributing factors. Safety improvement recommendations will be formulated based on this safety audit.

The study will rely on resources and expertise from the Maryland Highway Safety Office (MHSO), State Highway Administration (SHA), and Baltimore Metropolitan Council (BMC). MHSO is the lead agency for developing and implementing the 2016-2020 Maryland Strategic Highway Plan (SHSP) that includes a Pedestrian and Bicycle Emphasis Area. SHA has been conducting pedestrian roadway safety audits (PRSA) for the past several years along high pedestrian crash corridors and implementing engineering, education and enforcement countermeasures. BMC assists MHSO and SHA in implementing safety programs in the Baltimore region.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Fully understand the safety issues in the corridor by evaluating data on all crash types and by observation in the field (both daytime and night time).
- 2. Develop recommendations for safety mitigations including infrastructure improvements, lighting additions, speed management, enforcement and education.
- 3. Distribute safety mitigations to appropriate agencies.
- 4. Set up future tracking and evaluation procedures to assess the effectiveness of safety mitigations.

PRODUCTS/MILESTONES	SCHEDULE
Advertise and select consultant. Develop a scope of work.	1 st Quarter
Convene working group including Howard County Office of Transportation, Planning and Zoning, Public Works, Police Department and State Highway Administration (SHA). Organize existing crash data to evaluate crashes in the study corridor in the last two to three years.	2 nd Quarter
Develop safety mitigation recommendations for various crash types and for different segments of the study corridor.	3 rd Quarter
Distribute safety mitigation recommendations to appropriate agencies and implement mitigations where possible. Develop tracking and evaluation procedure to assess the effectiveness of safety mitigations going forward.	4 th Quarter

PARTICIPANTS: Howard County, SHA, Consultant

FY 2018 BUDGET: \$100,000

QUEEN ANNE'S COUNTY SUBAREA

PROJECT: MD 8 IMPROVEMENTS, THOMPSON CREEK CONNECTOR ROAD AND PEDESTRIAN IMPROVEMENTS

PURPOSE: Residents and visitors of Kent Island continue to experience increased traffic on the Island, particularly during the summer months when beach-bound vehicles increase along the US 50/301 Bay Bridge Corridor.

Though Kent Island has experienced some growth due to new residential areas and retail and businessdevelopment, the majority of the congestion experienced on the Island is attributed to increasing traffic volumes on the Bay Bridge. This project is to take the concepts from the Kent Island Transportation Plan and refine them into preferred alternatives and initial design. The project will consider design alternatives for improvements to MD 8 from Davidson Drive north to US 50/301 (approximately 1.7 miles) and the construction of a connector road that would link residents to services avoiding the MD 8 and US 50 interchange. The project will also, provide options for safe bicycle and pedestrian movements within the corridor including crossing US 50/301.

The project will consider the existing conditions within the MD 8 corridor and study area to evaluate the available rights of way for potential improvements to MD 8, the proposed connector road and for pedestrian safety.

The study will consider the existing sidewalk and trail network and identify gaps in the system that need to be addressed comprehensively in the corridor. The study will provide alternatives for dedicated sidewalks or trails to safely move residents within the corridor. As US 50/301 bisects Kent Island dividing the north Island from the south island, this study will consider how pedestrians could safely move across US 50/301 to connect to services and public facilities.

The alternatives for vehicular capacity improvements and pedestrian improvements will be considered comprehensively and an alternative will be selected to move forward with preliminary design.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Consider existing conditions and evaluate the available right of way in the corridor for improvements to MD 8 and the creation of the MD 8 Connector Road.
- 2. Analyze the existing pedestrian and bicycle access for residents, identify gaps in access and identify necessary safety improvements.
- 3. Consider options for pedestrians and bicyclists to safely cross US 50 / 301.
- 4. Make recommendations on the best alternatives for improvements to MD 8, construction of the connector road and providing improvements for safe pedestrian travel
- 5. Refine the selected alternative and provide preliminary design on the recommended improvements.
- 6. Provide preliminary cost estimates and phasing of improvements.

Products and Milestones	Schedule
Existing Conditions Analysis	1 st Quarter
Alternatives Analysis	2 nd Quarter
Select Alternative for Preliminary Design	2 nd Quarter
Refine Preliminary Design	3 rd & 4 th Quarter
Provide Cost Estimates and Phasing Plan	4 th Quarter

PARTICIPANTS: Queen Anne's County, SHA, MdTA, Consultant

FY 2018 BUDGET: \$150,000

REGIONAL SUBAREA

PROJECT: HOUSEHOLD TRAVEL SURVEY

PURPOSE: Perform Household Travel Survey on the characteristics and daily travel of approximately 5,000 households in the BRTB modeled area.

A new Household Travel Survey will collect data on the revealed travel preferences of households residing in the BRTB modeled area. The Household Travel Survey is the Baltimore region's primary source of data on the travel choices of households. The survey data will also be used to enhance and calibrate INSITE, the regional transportation model. INSITE forecasts future travel demand using current travel preferences and forecasts of household and employment growth and planned improvements to the regional transportation network. Approximately 5,000 households across all jurisdictions will participate in the new survey. The last household travel survey, in which BMC joined with MWCOG, was conducted in 2007-2008. BMC and MWCOG are holding discussions about another collaborative effort. It is expected that data collection for the survey will be completed in FY 2018.

FY 2018 PERFORMANCE INDICATORS:

- 1. Data collection for a large sample, activity-based household travel survey that will collect detailed information on the demographic characteristics and daily travel of approximately 5,000 households in the BRTB modeled area.
- 2. Reporting on various aspects of daily household, personal, and vehicle travel in the geographically focused subareas to support analysis of regional growth trends and transportation issues.
- 3. Staff supervision of the survey contractor to ensure that all survey procedures and protocols are correctly carried out and that survey quality control procedures are maintained. Staff will also coordinate survey activities with state and local government staff as appropriate.
- 4. Continued provision of data, documentation, and technical support to users of the 2007-2008 Household Travel Survey.

PRODUCTS/MILESTONES	SCHEDULE
Develop RFP and select a successful candidate or join WASHCOG surveying effort.	1 st Quarter
Manage data collection for a sample of approximately 5,000 households in the BRTB modeled area.	2 nd Quarter-4 th Quarter (continues in FY 2019)

PARTICIPANTS: Baltimore Metropolitan Council, MDOT, Consultant

FY 2018 BUDGET: \$600,000 (will likely require supplement from the FY 2019 UPWP)

REGIONAL SUBAREA

PROJECT: DEVELOPMENT OF REGIONAL AND JURISDICTIONAL TRANSPORTATION DATA BOOKS

PURPOSE: Develop templates and first editions of transportation data books and web content that can be easily updated to measure trends.

This project includes the development of regional and jurisdictional transportation data books and web content that are meant to serve as a compilation of information covering transportation infrastructure, transportation patterns, and other relevant data that either affects or is affected by transportation in the Baltimore region. The contents of these data books will be gathered from various sources and are intended to be used as a baseline to measure changes over time. These data books will be used to inform the regional long range transportation plan and other jurisdictional planning efforts.

FY 2018 PERFORMANCE INDICATORS:

- 1. Meet with state, regional and local transportation officials to outline data items to be included in the transportation data books and web content.
- 2. Develop a template for the data books and web content that can easily be updated on a regular basis.
- 3. Publish first editions of data books and web content for each BRTB jurisdiction and a regional version.
- 4. Prepare a public presentation template for the data books for use by regional and jurisdictional staff.

PRODUCTS/MILESTONES	SCHEDULE
Send out RFP and select a successful candidate.	1 st Quarter
Have consultant meet with state, regional and local transportation staff to outline data items to be included in the transportation data books and web content.	2 nd Quarter
Develop a template for the data books and web content that can be easily updated.	3 rd Quarter
Publish first editions of regional and jurisdictional data books, web content and presentations.	4 th Quarter

PARTICIPANTS: Annapolis, Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, Howard County, Queen Anne's County, Baltimore Metropolitan Council

BUDGET:

Annapolis	\$10,000
Anne Arundel County	\$10,000
Baltimore City	\$10,000
Baltimore County	\$10,000
Carroll County	\$10,000
Harford County	\$10,000
Howard County	\$10,000
Queen Anne's County	\$10,000
ВМС	\$180,000 (to manage consultant)

FY 2018 BUDGET:

\$260,000

REGIONAL SUBAREA

PROJECT: REGIONAL MTA/LOTS BUS STOP STUDY

PURPOSE: The Baltimore region has many transit transfer opportunities, many that have developed by accident rather than design. However, there have not been deliberate efforts to coordinate schedules or facilitate transfers at these stops. In addition to shared stops, there are a number of bus stops that are close to each other, yet not actually shared. Bus riders, must actually walk a block, or even half a block, between stops, for no apparent reason. Signage is often confusing, and there are no schedules that would list, for instance, all routes – regardless of provider – that served one stop.

Despite the lack of a support structure, a large amount of riders are transferring between systems; a survey recently conducted of RTA riders found that over 25% were transferring to or from an MTA or the Washington Metropolitan Area Transit Authority (WMATA) route. This clearly points to the essential role played by transit in linking people to the Baltimore and Washington regions.

In order to facilitate these transfers, and to encourage people to take advantage of them, this activity will undertake a regional effort to include: identify proximate stops that could become shared stops, examine route schedules and look for ways to make adjustments to facilitate transfers between systems, and examine ways that route and schedule information might be presented that would be stop-specific rather than system specific.

FY 2018 PERFORMANCE OBJECTIVES:

- 1. Kick-off meeting to coordinate with key stakeholders and determine roles and responsibilities. Develop scope of work, project goals and parameters, and budget.
- 2. Finalize scope of work for consultant. Provide consultant assistance for regional information and coordination among stakeholders.
- 3. Collect, compile and evaluate data on LOTS performance, travel desire lines, demographics, etc.
- 4. Recommend changes to LOTS/MTA routes and schedules necessary to meet transit performance standards and increase system efficiency as feasible based on public feedback and funding constraints.
- 5. If necessary, conduct public meetings to present findings and proposed changes to transit routes (smaller, incremental changes to stop locations and schedules would not require public meetings).
- 6. Develop cost estimates for transit route changes/alterations and new route planning implementation.
- 7. Compile findings and results, with a report listing recommendations for schedule changes, stop relocations, and possible ways to present schedule information by stop rather than provider.

PRODUCTS/MILESTONES	SCHEDULE
Kick-off meeting with core participants and representatives. Identify appropriate consultant support, develop scope and finalize contract.	1 st Quarter
Develop project goals, parameters and data needs assessment. Collect, compile and evaluate performance data.	2 nd Quarter
Produce graphics and charts based on comprehensive evaluation for public consumption and feedback.	3 rd Quarter
Prepare revised route maps and schedules as needed.	4 th Quarter

PARTICIPANTS: Howard County, Anne Arundel County, Prince George's County, City of Laurel, , Regional Transportation Agency, MTA, Consultant and other stakeholders

BUDGET:	Annapolis	\$10,000
	Anne Arundel County	\$20,000
	Baltimore City	\$20,000
	Harford County	\$20,000
	Howard County	\$20,000
	Queen Anne's County	\$10,000
	ВМС	\$180,000 (to manage consultant)

FY 2018 BUDGET:

\$280,000

APPENDIX C

PUBLIC REVIEW PROCESS

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Budget and Work Program

Fiscal Years 2018 and 2019



BRTB Budget & Work Program (UPWP) for FY 2018 and 2019

The Baltimore Regional Transportation Board (BRTB) welcomes comments on its draft Budget & Work Program for Fiscal Years 2018-2019 from **Friday, February 17, to Tuesday, March 21**.

The BRTB develops this list of regional transportation planning activities every two fiscal years. This plan includes funding for planning activities for July 1, 2017 through June 30, 2019.

What is the UPWP?

The BRTB's Budget and Work Program is known as the Unified Planning Work Program (UPWP) for Transportation Planning. It details projects, studies and other activities to be completed by BRTB members and staff of the Baltimore Metropolitan Council (BMC). The UPWP includes both local and region-wide activities.

The updated UPWP funds support staff and several local planning activities. New local and regional projects include:

- Initiating *Maximize 2045: A Performance-Based Transportation Plan,* the Baltimore region's next long-range transportation plan. BRTB staff will solicit feedback from residents and key stakeholders.
- Promoting safety for all users of the transportation network, especially pedestrians and bicyclists, which includes a specific activity to assess conditions on U.S. 1 in Howard County.
- Finalizing a strategy to conduct a major Household Travel Survey with key partners in the state.

- Coordinating locations along the BaltimoreLink bus routes between the Maryland Transit Authority (MTA) stops and local transit services.
- Identifying potential locations for a multi-modal Transportation Center in the area of Annapolis to enhance efficiency, comfort and safety of patrons.

Download the Budget & Work Program for FY 2018-2019 or visit the Regional Information Center (RIC) at the Baltimore Metropolitan Council to view a printed copy.

View FAQ about the FY 2018-2019 UPWP

B'More Involved

The public is invited to share their thoughts on these proposed regional transportation planning activities through **Tuesday, March 21, 2017.**

Please send all comments in writing to:

Email: 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 28,** or before the vote on **Tuesday, April 25.**

The BRTB is the federally recognized metropolitan planning organization for transportation in the region. BMC provides the BRTB with 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.

At the end of the comment period, no comments were received from the public.



FOR IMMEDIATE RELEASE

CONTACT: Laura Van Wert, 410-732-9564

BRTB SEEKS PUBLIC COMMENTS FOR DRAFT FY 2018-2019

BUDGET AND WORK PLAN

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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 executives of Anne Arundel, Baltimore, Harford and Howard counties, the mayor of the City of Baltimore, a member of the Carroll County Board of Commissioners, a member of the Maryland State Senate, a member of the Maryland House of Delegates, and a gubernatorial appointee from the private sector.

APPENDIX D

ADDITIONAL PLANNING STUDIES

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MARYLAND TRANSPORTATION AUTHORITY

Chesapeake Bay Crossing NEPA Master Plan Study: In August 2016 Governor Hogan announced the start of a study that will identify the location and explore potential funding options for a new Chesapeake Bay crossing. The "National Environmental Policy Act of 1969 (NEPA) Master Plan" study will take up to 48 months to complete and will pursue environmental regulatory agency concurrence and agreement from the Eastern Shore counties on one crossing location. The study will include traffic, engineering, and environmental analyses; cost-per-mile estimates; preliminary financing and procurement options; and an economic and land-use study.

FEDERAL RAILROAD ADMINISTRATION

NEC Future Final EIS: The Tier 1 Final Environmental Impact Statement (EIS) for Northeast Corridor (NEC) Future assesses the broad impacts of an investment program to improve passenger rail service between Washington, D.C. and Boston. It evaluates a Preferred Alternative in comparison with a No Action Alternative, and considers impacts to transportation, the economy, the built environment, and natural resources. It also includes responses to comments on the Tier 1 Draft EIS. The Tier 1 Final EIS will be used to inform the Federal Railroad Administration's (FRA's) selection of an alternative in the Record of Decision.

Baltimore-Washington Superconducting MAGLEV Project: The FRA and the Maryland Department of Transportation (MDOT) are preparing an EIS to evaluate the potential impacts of constructing and operating a high-speed superconducting magnetic levitation (SCMAGLEV) system between Washington, D.C. and Baltimore, Maryland with an intermediate stop at BWI Airport. The EIS is being prepared in compliance with NEPA, as amended, and other applicable regulations and procedures.

STATE HIGHWAY ADMINISTRATION

I-795 at Dolfield Blvd: The I-795 project planning study received location approval on April 27, 2015. The project to construct a new interchange between I-795 and Dolefield Road is in the design phase with partial engineering funding.

MD 198: MD 295 to MD 32: The MD 198 project planning study, funded \$3.5 million by Anne Arundel County, was completed in the Summer of 2015. Phase one improvements at MD 295 are in the design phase with \$2.0 million in engineering funding.

MD 32: I-70 to MD 26: The MD 32 feasibility study will be completed in FY 2017. No additional funds have been programmed for planning beyond FY 2017.

I-95: I-695 to I-495: The I-95 feasibility study to identify operational improvements between the Baltimore and Washington D.C. beltways will be completed in FY 2017. Partial State funding for engineering is programmed for FY 2018.

US 50 (John Hanson Highway): MD 70 to MD 2: This project to construct safety and operational improvements along eastbound US 50 over the Severn River Bridge is in planning and engineering concurrently. Location Approval and project advertisement are anticipated in the Spring of 2017. This project is funded a total of \$25.8 million in State funds.

HOWARD COUNTY

Washington Boulevard Corridor Study: The study will provide a land-use and transportation vision that is closely aligned with market conditions along US 1. The study will assess economic, market, and transportation realities along the corridor, engage the public in a discussion about the corridor's future, and synthesize input from various sources into market-based development concepts. These will be discussed and evaluated and ultimately one, consensus alternative, should emerge as the foundation for a corridor plan. The project is county funded and is expected to start in the fall of 2017.

Master Plan for Ellicott City and the Tiber-Hudson Watershed: The master plan will define a comprehensive, community-driven vision for rebuilding a stronger and more resilient Ellicott City. It will also incorporate a watershed plan in a way that many traditional master plans do not. Ellicott City's unique topography, hydrology, road network, and mill town heritage will require a tailored, well-planned roadmap for long-term rebuilding. The project is county funded and is expected to start in the summer of 2017.

RTA Transportation Development Plan: RTA member counties and cities, (Ann Arundel County, Howard County, City of Laurel, Prince George's County) are updating the Transportation Development Plan (TDP). The TDP was last updated in 2008 by KFH Group, Inc. The current update will be prepared by KFH and will be completed by the end of calendar year 2017. MTA, SHA, BRTB and Howard County are funding various aspects of the Plan. The TDP will serve as a guide for transit services in the Central Maryland region and will provide a roadmap for implementing service and organizational improvements, including potential service expansion, during the next five years. This was included in the FY 2017 UPWP and is carrying over into FY 2018.

Bus Rapid Transit: The project will plan and develop preliminary concepts for a Bus Rapid Transit (BRT) system on US 29, in coordination with Montgomery County's BRT project. The project is underway and the planning phase of the project will be completed in FY 2018. The project will update ridership forecasts, service plans, fare plans and develop preliminary planning for a BRT station in Downtown Columbia. Both BRTB and MTA are funding different elements of the project. This was included in the FY 2016 UPWP and is carrying over into FY 2018.

MD 99 Corridor: The project will investigate safety and congestion issues on the MD 99 corridor between Marriottsville Road and US 29/MD 99 intersection to develop a series of recommendations and actions to address the issues raised during the investigation. The county expects to initiate the project by late 2017; no completion date is available. The project is county funded.

Transitway Study: Howard County has started renovating the pedestrian/bicycle bridge spanning US 29 between the Oakland Mills neighborhood and Downtown Columbia. In conjunction with the renovation, the County will be examining the future costs and potential for using the bridge as the focal point of a new transitway that would span from Western Columbia (Howard County Hospital) to the Gateway area near MD 108 and I-95. The study is underway and is being conducted by KFH Group, funded by the county, and will be completed by the end of calendar year 2017.

Columbia Gateway Pedestrian and Bicycle Access Study: The study will develop and assess bicycle and pedestrian connections in and out of the Columbia Gateway office park. The study will develop and update the inventory of existing access points, opportunities for new access improvements and an implementation plan. Howard County will fund and staff project. The project will start in the fall of 2017; however, no completion date is available.

Complete Streets: The project is to develop a complete streets policy and a Complete Streets Design Manual, via revisions/updates to Howard County's Design Manual to provide the design tools to implement safe and functional streets for everyone. This project will use consultant expertise to gather the input of working group of stakeholders to draft a Complete Streets section of the Howard County Design Manual. The new manual will tackle a public review and approval process. WRA is providing consulting support to the project, which started in the fall of 2016. The county expects to complete the project in the fall of 2017. BRTB and Howard County are funding the project. This was included in the FY 2017 UPWP and is carrying over into FY 2018.

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APPENDIX E

LIST OF ACRONYMS

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ACRONYMS / A	ABBREVIATIONS
3-C	Continuing, Cooperative and Comprehensive
ABM	Activity Based Model
ACS	American Community Survey
ADA	Americans With Disabilities Act
B2WD	Bike 2 Work Day
вмс	Baltimore Metropolitan Council
BPAG	Bicycle & Pedestrian Advisory Group
BPDS	Building Permit Data System
BRGISC	Baltimore Region Geographic Information Systems Committee
BRSS	Baltimore Region Safety Committee
BRT	Bus Rapid Transit
BRTB	Baltimore Regional Transportation Board
CAA	Clean Air Act
САР	Clean Air Partners
CASI	Computer Assisted Self-Interview
CATT	Center for Advanced Transportation Technology
CBD	Central Business District
CFG	Cooperative Forecasting Group
CFR	Code of Federal Regulations
CHART	Coordinated Highways Action Response Team
CMAQ	Congestion Mitigation and Air Quality
СМР	Congestion Management Process
CSA	Combined Statistical Area
СТРР	Consolidated Transportation Planning Package
DBE	Disadvantaged Business Enterprise
DNR	Department of Natural Resources
DOIT	Department of Information Technology
DOT	Department of Transportation
DTA	Dynamic Traffic Assignment
EAT	Emphasis Area Team
EPA	Environmental Protection Agency
FAST Act	Fixing America's Surface Transportation
FHWA	Federal Highway Administration
FMIS	Financial Management Information System
FMTF	Freight Movement Task Force

FTA	Federal Transit Administration
FY	Fiscal Year
GIS	Geographic Information System
HUD	Housing and Urban Development
ICG	Interagency Consultation Group
ICM	Integrated Corridor Management
InSITE	Initiative to Simulate Individual Travel Events
ISIP	Intersection Safety Implementation Plan
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
ITS MD	Intelligent Transportation Society of Maryland
LEP	Limited English Proficiency
LOS	Level of Service
lots	Locally Operated Transit Service
LRTP	Long Range Transportation Plan
LUCA	Local Update of Census Addresses
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
MDTA	Maryland Transportation Authority
MEF	Master Establishment File
MHSO	Maryland Highway Safety Office
MIIF	Major Intersections and Important Facilities
MMTA	Maryland Motor Truck Association
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emission Simulator
MPA	Maryland Port Administration
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MRPA	Maryland Recreation and Parks Association
MSA	Metropolitan Statistical Area
MSGIC	Maryland State Geographic Information Committee
MSTM	Maryland Statewide Travel Model
MTA	Maryland Transit Administration
MVA	Motor Vehicle Administration

MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHS	National Highway System
NHTS	National Household Travel Survey
NSC	National Study Center
P2P	Port-to-Point
PAC	Public Advisory Committee
PDF	Portable Document Format
PEA	Planning Emphasis Area
POPGEN	(Synthetic) Population Generator
РРР	Public Participation Plan
PM _{2.5}	Fine Particulate Matter
PSAP	Participant Statistical Area Program
RFP	Request for Proposals
SHA	State Highway Administration
SHRP	Strategic Highway Research Program
SHSP	Strategic Highway Safety Plan
SIP	State Implementation Plan
SRTS	Safe Routes to School
STIC	State Transportation Innovation Council
STP	Surface Transportation Program
TAM	Transit Asset Management
TAM	Transportation Asset Management
ТАР	Transportation Alternatives Program
TAZ	Transportation Analysis Zone
ТВМ	Travel Based Model
тс	Technical Committee
TDM	Transportation Demand Management
TIM	Traffic Incident Management
TIMBR	Traffic Incident Management (Committee) for the Baltimore Region
TIP	Transportation Improvement Program
ТМА	Transportation Management Area
ТРВ	Transportation Planning Board
T&PW	Transportation & Public Works Committee
TRCC	Traffic Records Coordinating Committee
TSMO	Transportation Systems Management & Operations

UASI	Urban Area Security Initiative
UAWG	Urban Area Work Group
UPWP	Unified Planning Work Program
U.S. DOT	United States Department of Transportation
VISSIM	VerkehrInStädten – SIMulationsmodell
VOT	Value of Time
VMT	Vehicle Miles Traveled
VPI	Vulnerable Population Index
VPP	Vehicle Probe Project
WILMAPCO	Wilmington Area Planning Council
WMATA	Washington Metropolitan Area Transit Authority