

**SHORT-RANGE
TRANSPORTATION PLANNING**

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PROJECT: TRANSPORTATION IMPROVEMENT PROGRAM

PURPOSE: To assemble a comprehensive listing of requests for federal funds in support of state and local transportation investments planned over the next four-year period.

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The BRTB adopts a Transportation Improvement Program (TIP) each year. The TIP documents the anticipated timing and costs for all regionally significant projects utilizing federal, state and local resources. In addition, the TIP must demonstrate its ability to conform to the State Implementation Plan (SIP) for air quality standards, and document private enterprise participation and financial capacity for each implementing agency. During development of the TIP, the public is afforded opportunities to review and comment on proposed projects during the public outreach phase. The public is encouraged to comment on the full documentation with information on the conformity determination and financial constraint.

Web-based software is used in the development of the TIP that enables jurisdictions and agencies to submit, view and edit their TIP projects online. The software also provides the public an opportunity to review and comment on the TIP projects online in a user-friendly format. Visitors to the TIP web site can review draft projects with project status, project descriptions and justifications and find information about phases of the projects, funding amounts, and funding sources. Visitors can also view the maps associated with the projects online.

Development of the 2012-2015 TIP will be completed by late FY 2011 with BRTB approval scheduled in early FY 2012. Amendments to the 2011-2014 TIP will be reviewed and coordinated with the region's conformity determination as appropriate. Development of the 4-year 2012-2015 TIP will occur mostly in FY 2012 and will include the preparation of draft documents and public involvement.

In keeping with the surface transportation legislation, SAFETEA-LU, a listing of projects with federally obligated funds from the previous years TIP's annual element will be published within ninety (90) days after the end of each fiscal year and be readily available for viewing online.

FY 2012 PERFORMANCE OBJECTIVES:

1. Develop a detailed and financially realistic program of transportation projects that is consistent with the long-range transportation plan in conjunction with air quality standards and addresses environmental justice guidance.
2. Ensure opportunities for public input, review and comment.
3. Effectively communicate the process member jurisdictions have developed to submit projects for TIP approval.
4. Amend the TIP as necessary.
5. Solicit and review proposed projects for the 2013-2016 TIP.
6. Track project implementation or delay from previous year's TIP for the annual listing of projects.
7. Use the TIP as a management tool for implementing the Long Range Transportation Plan.

PRODUCTS/MILESTONES	SCHEDULE
Final 2012-2015 TIP documents	1 st Quarter
Draft 2013-2016 TIP	3 rd & 4 th Quarter
2013-2016 TIP public participation forums	4 th Quarter
Obligated Project Listing of federally funded projects	2 nd Quarter
TIP amendments, if applicable	Throughout Fiscal Year

PARTICIPANTS: Baltimore Metropolitan Council, Maryland Department of Transportation, State Highway Administration, Maryland Transit Administration, Maryland Transportation Authority, the City of Annapolis, Baltimore City and Anne Arundel, Baltimore, Carroll, Harford and Howard counties.

BALTIMORE REGION UPWP
FY 2012 UNIFIED PLANNING WORK PROGRAM

<u>BUDGET:</u>	Baltimore Metropolitan Council	\$40,000
	City of Annapolis	\$1,270
	Anne Arundel County	\$1,000
	Baltimore City	\$10,165
	Baltimore County	\$3,000
	Carroll County	\$1,270
	Harford County	\$5,080
	Howard County	<u>\$5,080</u>
	TOTAL	\$66,865

FHWA Share –	\$34,235
FTA Share –	\$19,257
MDOT Share –	\$ 4,000
Local Share –	\$ 9,373

PROJECT: SUBAREA ANALYSIS

PURPOSE: To provide BMC technical staff support of subarea transportation systems analysis efforts conducted by the local jurisdictions of the Baltimore region. Computer-based planning tools are particularly effective in sensitivity testing of alternative growth and transportation systems scenarios conducted by the member jurisdictions of the BRTB. While jurisdictions in the region are encouraged to perform subarea transportation systems analyses using state-of-the-art planning models, these efforts must be carried out in coordination with BMC activities.

This work is a critical first step toward integration of the regionally significant elements of local transportation plans within a regional framework. These studies provide for the development of highway and transit system projections and needs analyses, ultimately leading to updates of corridor and local area multi-modal transportation plans. In FY 2011, BMC staff continued to train the local and state agencies interested in applying the CUBE technology to their respective transportation planning activities. The results of local network studies will be used to further calibrate the regional model development efforts.

In FY 2012, BMC staff will continue to provide technical assistance and information resources to program participants. This will include BMC staff assistance in applying the CUBE software as well as running the regional travel demand model to help analyze a local concern with regional implications. Also, BMC staff will provide assistance in developing corridor analyses at a more localized level.

Local model coordination will continue with refinements to the existing technical tools conducting the travel demand impacts associated with BRAC. In FY 2009, BMC staff refined the zone structure and enhanced the transportation network in the area around Fort Meade. BMC staff will continue to provide technical assistance as the local jurisdictions apply the refined model.

FY 2012 PERFORMANCE OBJECTIVES:

1. Provide technical assistance and training to local jurisdictions.
2. Review and comment on projects produced by local participants.
3. Compile list of potential modifications, resulting from local initiatives, to regional travel simulation efforts.

PRODUCTS/MILESTONES	SCHEDULE
Enhanced computer network files	Throughout Fiscal Year
Memoranda documenting local assistance	Throughout Fiscal Year

PARTICIPANTS: Baltimore Metropolitan Council

BUDGET: **\$50,000**

FHWA Share – \$25,600
FTA Share – \$14,400
MDOT Share – \$ 5,000
Local Share – \$ 5,000

PROJECT: SUBAREA ANALYSIS: CITY OF ANNAPOLIS RESPONSIBILITIES

PART A: TRANSIT PLANNING

PURPOSE: This project evaluates the impacts of the City of Annapolis Transit System service including route and frequency of service modifications. This evaluation will allow the City to apply transit performance guidelines to identify cost and performance effectiveness of route modifications and expansion of service. Route analysis can also be applied to further refine the City’s mobility service and coordination with Maryland Transit Administration’s routes and schedules as well as other local jurisdictions.

Application of MTA transit standards will build upon Howard County’s 2010 project and will assist in testing the reasonableness of the standards for the Baltimore region. An analysis of transit routes in the City of Annapolis will emphasize regional connections with other transportation systems and modes including MTA, MARC, BWI Airport and commuter routes. Further refinement and potential expansion of routes and schedules will focus on achieving better regional coordination with adjacent systems.

FY 2012 PERFORMANCE INDICATORS:

1. Apply transit performance tools and measures to City of Annapolis transit routes and schedules.
2. Evaluate all current and potential City of Annapolis transit routes in regard to the state efficiency measures and regional connectivity.
3. Recommend changes to Annapolis Transit routes and schedules as needed to meet transit performance standards and increase system efficiency.
4. Implement recommended changes based on public feedback and available funding.

PRODUCTS/MILESTONES	SCHEDULE
Assemble FY 2011 performance data	1 st Quarter
Produce a report detailing the application of efficiency measures to Annapolis Transit and potential regional connections	2 nd and 3 rd Quarters
Prepare and implement recommended changes to routes and schedules as needed	4 th Quarter

PARTICIPANTS: City of Annapolis – DOT

BUDGET: \$35,000

PART B: EVALUATING EFFECTIVE AND INTERACTIVE PEDESTRIAN WAYFINDING SYSTEMS IN HISTORIC DISTRICTS

PURPOSE: The purpose of this project is twofold: 1) to study the effectiveness of wayfinding signs for pedestrians and bicyclists that are visible, interactive, and dynamic—yet appropriate for historic districts with selective sign guidelines and 2) to develop a model wayfinding system that can be used regionally, with initial implementation in Annapolis.

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From Chester, Virginia, to Quincy, Illinois, the issue of electronic and interactive signs has gripped planning commissions and city councils alike. Sign companies often claim that “[signs, screens and displays that are interactive, rather than static, are far more effective at capturing people’s attention and engaging them with your brand”. However, there has not been as much research to indicate that these signs can be used by public entities as wayfinding tools that can direct pedestrians and bicyclists to sites of interest and eliminate or reduce confusion for out-of-town visitors. Government jurisdictions need more assistance and guidance in selecting the most appropriate, and the most innovative, wayfinding signage options. Most importantly, jurisdictions need to craft a comprehensive wayfinding program that can make broad recommendations for future sign implementation.

There are many different types of interactive signs currently available, with a wide range of designs. These kinds of signs include interactive plasma displays; vehicle-activated signs; and solar and wind powered signs. There are also signs that integrate different technologies to coordinate real-time parking information. Because the cost of these signs can be considerable, it is crucial for jurisdictions with limited means to have the appropriate information to make the right decision about the kind of sign that will work best for the residents of and visitors to that jurisdiction.

The City of Annapolis is proposing this study in conformance with elements of its Comprehensive Plan calling for the creation of a cohesive program of placemaking and

wayfinding that not only identifies gateways, cultural districts, city landmarks, and public services, but influences travel behavior and promotes multi-modal travel options. The first performance indicator for this wayfinding system study would be an analysis and evaluation of the most effective type and location of signs, considering the purpose of the signs and considering the resources available. This would be a preliminary work program that would compile a comprehensive inventory of all wayfinding signage, supplementing the already existing geo-coded inventory of all traffic signs and signals. This effort would include the City's existing "You Are Here" signs, and the "Navigate Annapolis" signs installed in 2005. The program could include the compilation of other interpretive signs currently displayed in the City.

Traffic and pedestrian counts could help provide guidance for the most suitable location for different signs. The most effective number of signs would also need to be evaluated. Too many signs would be distracting and detract from the wayfinding purpose and potential of the signs. The ultimate goal would be to help effectively and dynamically welcome out-of-town visitors and to point them to places of interest and assist them in learning more about the cultural history of Annapolis.

The second performance indicator for the wayfinding system study would be to evaluate design options to ensure the compatibility of the signs in a historic district. It would be critically necessary to test a prototype sign to ensure that it is optimally placed and well-suited to its surroundings. Currently, there are discussions underway to plan for the placement of a prototype sign in the next nine months. This study could identify benchmarks by which the prototype sign could be evaluated. For example, performance could be measured by the number of times it is accessed by pedestrians. Before installation of a prototype sign, it would also be necessary for project staff to visit three model communities (in Maryland and Virginia) to view sites where wayfinding systems are already in place. Chestertown, Maryland, for example, has recently installed an interactive sign, and it would be invaluable to hear feedback from that jurisdiction's staff.

The best way to evaluate the effective number of signs, their design, and the success of the prototype sign would be with a public hearing, which is the third performance indicator for the study. This hearing, which could be advertised on the prototype sign itself, would give the public a chance to give feedback on the work program and on the design and placement of the prototype sign.

This signage study would enable the City of Annapolis to promote visitation to historic sites in Annapolis and throughout the region, publicize city events, identify community gateways, locate neighborhood businesses, and help visitors and residents more easily find their way to local destinations. This process, and the final report that would follow the public hearing, could be developed into a model program for other jurisdictions that are looking at electric and interactive signage.

FY 2012 PERFORMANCE INDICATORS:

1. Develop a work program to comprehensively plan guidelines for the types and locations of wayfinding signs. Include an inventory of existing signs.
2. Develop design options for signs and benchmarks for the evaluation of a prototype sign.
3. Have a public meeting to share potential designs and sign placement options. Also, solicit feedback on prototype sign.
4. Prepare a final report with changes recommended by public and develop a regional model for signage studies.

PRODUCTS/MILESTONES	SCHEDULE
Send out RFP and select a successful candidate	1 st Quarter
Have consultant review existing signage plans and begin field research into successful wayfinding programs; develop benchmarks for prototype sign performance	2 nd Quarter
Hold a public hearing to present preliminary findings and to gather feedback on prototype sign and wayfinding program	3 rd Quarter
Complete planning study with recommendations for a wayfinding system for jurisdiction	4 th Quarter

PARTICIPANTS: City of Annapolis, Consultant

BUDGET: **\$75,000**

TOTAL ANNAPOLIS SUBAREA BUDGET: **\$110,000**

FHWA Share – \$56,320
FTA Share – \$31,680
Local Share – \$22,000

PROJECT: SUBAREA ANALYSIS: ANNE ARUNDEL COUNTY RESPONSIBILITIES

PART A: PEDESTRIAN/BICYCLE FACILITY ASSESSMENT

PURPOSE: Comprehensively evaluate pedestrian and bicycle facilities in Anne Arundel County.

This project will assess deficiencies and gaps in continuity, including missing connections to local (parks, schools, etc.) and regional facilities and activity centers in order to identify and prioritize potential corrective actions. The project will be coordinated with the regional effort to provide easier access to rail stations and is intended as a prototype that may be applied elsewhere in the Baltimore region.

FY 2012 PERFORMANCE OBJECTIVES:

1. Review County reports/studies (e.g. Pedestrian and Bicycle Master Plan 2003, GDP and small area master plans, latest travel forecast model trip table and mode share data; school Board sidewalk priority list, etc.) plus efforts by other jurisdictions to identify, quantify and prioritize facility improvement needs.
2. Field survey and map pedestrian/bike facilities and facility gaps along arterial and collector roads in the County's urbanized area and identify pedestrian/bike amenities (crosswalks, lighting, pedestrian signal phase, bike racks, etc.) as well as likely significant pedestrian/bike trip producers (residential enclaves) and attractors (schools, parks, libraries, shopping, etc.)
3. Conduct outreach meetings to identify community concerns and observations in order to identify and prioritize additional facility needs.
4. Develop methodologies for prioritizing facility improvement options and standardizing unit costing.
5. Identify and broadly rank (e.g., hi, med, lo) site specific improvement options and cost estimates.
6. Develop a prototype list of recommendations for changes to existing development regulations and design standards to assist in implementation of the identified improvements.

PRODUCTS/MILESTONES	SCHEDULE
Map existing pedestrian & bicycle facilities, facility gaps and amenities	1 st & 2 nd Quarters
Prioritize list of pedestrian and bicycle improvements in Priority Improvement Corridors	3 rd Quarter
Develop strategies to implement the improvements from sources other than the capital budget	4 th Quarter

PARTICIPANTS: Anne Arundel County, Consultant

BUDGET: \$283,000

PART B: COMPLETE STREETS ASSESSMENT

PURPOSE: Evaluate the feasibility and applicability of Complete Streets (and/or Context Sensitive Design) techniques as a means of expanding regional travel capacity by utilizing available right of way more effectively while encouraging and facilitating alternative travel modes.

This initiative builds upon the Transportation Functional Master Plan (TFMP) analysis of regional corridors and connector roads conducted as part of the County's FY 2011 UPWP. It is intended as a prototype that may be applied elsewhere in the Baltimore region.

FY 2012 PERFORMANCE OBJECTIVES:

1. Research applicability of utilizing Complete Streets techniques and adopting Complete Streets regulations in Anne Arundel County.
2. Identify the most viable strategies and regulatory and implementing language that may be applied in the Anne Arundel County and other jurisdictions in the Baltimore region.
3. Select the most promising strategies and locations for potential implementation in the County.

PRODUCTS/MILESTONES	SCHEDULE
Research applicability of utilizing Complete Streets techniques and adopting Complete Streets regulations in Anne Arundel County	1 st & 2 nd Quarters
Identify the most viable strategies and regulatory and implementing language that may be applied in the Anne Arundel County and other jurisdictions in the Baltimore region	3 rd Quarter
Select the most promising strategies and locations for potential implementation in the County	4 th Quarter

PARTICIPANTS: Anne Arundel County, Consultant

BUDGET: \$85,000

TOTAL ANNE ARUNDEL COUNTY SUBAREA BUDGET: \$368,000

FHWA Share – \$188,416
 FTA Share – \$105,984
 Local Share – \$ 73,600

PROJECT: SUBAREA ANALYSIS: BALTIMORE CITY RESPONSIBILITIES
PART A: TRANSPORTATION OPERATIONS PLAN FOR SUSTAINABILITY

PURPOSE: The purpose of this project is to develop a “Transportation Operations Plan for Sustainability,” which begins with the inventory of current environmental management practices and the establishment of a “Sustainability Scorecard.” Among the items to be inventoried and analyzed are the energy efficiency of current facilities and major equipment, materials used in routine operations which could be used to improve water runoff quality, and disposal of materials on the principle of “reduce, reuse and recycle.” From the benchmarking, inventory and analysis, DOT will:

- Creation of environmental standard operating procedures manuals and pocket reference cards for personnel at SHA maintenance shops. This included procedures for stockpiling materials in an environmentally responsible manner.
- Environmental awareness training for all employees.
- Implement an environmental management system to track activities and compliance data.

Appropriately, sustainability in transportation including green technologies, energy efficiency, noise air, and water pollution reduction are being mandated at Federal, State, and Local levels. While this practice is increasingly being integrated into the physical construction of roads and bridges, lagging behind is sustainable operations practices a public works facilities, in the operations of highway maintenance equipment, and in other “internal” operational practices. In Fall 2008, SHA and MDOT signed an agreement with the EPA to perform voluntary self-audits/self disclosures for environmental compliance issues associated with facilities and to dedicate funds for remedial action. This was EPA’s first agreement with a state transportation agency, setting the bar for others to follow. Local governments should be in a position to follow suit.

FY 2012 PERFORMANCE OBJECTIVES:

1. Inventory of current environmental management practices and the establishment of a “Sustainability Scorecard.”
2. Create environmental standard operating procedures manuals and pocket reference cards for personnel at DOT maintenance shops. This includes procedures for stockpiling materials in an environmentally responsible manner.
3. Create an environmental awareness training program for all employees.

4. Implement an environmental management system to track activities and compliance data.

PRODUCTS/MILESTONES	SCHEDULE
Inventory of current environmental management practices and the establishment of a "Sustainability Scorecard"	1st Quarter
Create environmental standard operating procedures manuals and pocket reference cards for personnel at DOT maintenance shops. This includes procedures for stockpiling materials in an environmentally responsible manner	2nd Quarter
Create an environmental awareness training program for all employees	3rd Quarter
Implement an environmental management system to track activities and compliance data	4th Quarter

PARTICIPANTS: Baltimore City DOT, Baltimore City Legal Department, Other agencies, and BMC.

BUDGET: \$135,000

PART B: COMMERCIAL VEHICLE ENFORCEMENT/MONITORING/ROUTING TECHNOLOGIES AND FREIGHT COMMUNITY IMPACT ASSESSMENT & MANAGEMENT PLAN

PURPOSE: The purpose of this project is to develop a comprehensive approach to assess and manage freight movement while balancing livable communities throughout the city and into adjacent counties. The project consists of two parts:

1. Research commercial vehicle enforcement, monitoring and routing technologies for application in and around the City's freight distribution hubs. The project will identify existing technologies and evaluate their resource requirements and limitations for cost effective implementation in the Baltimore region; identify, emerging technologies that have the potential to reduce or overcome the resource requirements and limitations, develop a matrix for use in local jurisdiction planning for commercial vehicle enforcement and monitoring; and, research the legal obstacles for using technology for enforcement and monitoring and develop strategies for the removal of these obstacles. From this research, the City intends to develop a pilot project in Baltimore City to test commercial vehicle enforcement monitoring to evaluate the cost benefit and return on investment for regional implementation.

2. Establish baseline measurements of air quality, noise, vibration, light pollution, etc., in communities adjacent to Port facilities. From this baseline, a policy scan of best management practices (BMP's) can be applied to manage and mitigate priority impacts of stakeholders.

Freight movement in the Baltimore region is expected to increase exponentially over the next two decades (as measured in tons of cargo per year and number of truck transports per year). The Port of Baltimore is a major entry point for international freight into the east coast; this will be even more the case beginning in 2014 when the widened Panama Canal opens to super-freighters. Baltimore City is a 300 year-old city built on commerce and transportation and most individuals living in the City understand to some extent that they live in or near centers of freight activity; however, with the increase in freight movement, communities are increasingly looking to manage and mitigate the adverse impacts of freight movement on quality of life. Assessing and managing the impacts of freight projects will be

particularly important to City neighborhoods (and to a lesser extent, Baltimore and Anne Arundel communities) as the first mile of every truck trip to and from the Port of Baltimore occurs on City streets.

FY 2012 PERFORMANCE OBJECTIVES:

1. Identify existing technologies and evaluate their resource requirements and limitations for cost effective implementation
2. Identify emerging technologies and evaluate their resource requirements and limitations for cost effective implementation
3. Develop a matrix for use in local jurisdiction planning for commercial vehicle enforcement and monitoring.
4. Develop pilot project in Baltimore City to test commercial vehicle enforcement monitoring to evaluate the cost benefit and return on investment for regional implementation.
5. Conduct a policy scan for air quality, noise and vibration in major freight centers and jurisdictions.
6. Perform a technical air, noise, and vibration analysis in the SE portion of Baltimore City related to Port activities.
7. Report out on targeted stakeholder meetings regarding quality of life in freight centric communities, and perceptions of air, noise, and vibration issues related to freight.
8. Create a final plan with recommendations for community enhancements resulting from major freight activities and corridors.

**BALTIMORE REGION UPWP
FY 2012 UNIFIED PLANNING WORK PROGRAM**

PRODUCTS/MILESTONES	SCHEDULE
Identify existing and emerging technologies for commercial vehicle enforcement and monitoring. Conduct a policy scan for air quality, noise and vibration in major freight centers and jurisdictions.	1 st Quarter
Develop a matrix for use in local jurisdiction planning for commercial vehicle enforcement and monitoring. Perform a technical air, noise, and vibration analysis in the SE portion of Baltimore City related to Port activities.	2 nd Quarter
Develop pilot project in Baltimore City to test commercial vehicle enforcement monitoring to evaluate the cost benefit and return on investment. Report out on targeted stakeholder meetings regarding quality of life in freight centric communities, and perceptions of air, noise, and vibration issues related to freight.	2 nd & 3 rd Quarter
Final Report and recommendations	4 th Quarter

PARTICIPANTS: Baltimore City DOT, BMC, Maryland Port Administration, various City and State regulatory agencies, MDOT Office of Freight & Logistics, Consultant

BUDGET: **\$250,000**

PART C: ECONOMIC EMPOWERMENT IN TRANSPORTATION PROJECTS

PURPOSE: The purpose of this project is to research and benchmark best practices (BMP's) which increase access to jobs for residents of distressed communities through the design and construction of transportation projects. Benchmarking will include researching other jurisdictions that have successfully done overcome the barriers described above. In addition, project staff will interview and meet with contractors, contract administrators, workforce development officials and others to identify strategies which can be used to overcome the barriers. Create a toolkit for planning transportation projects that includes policy, procurement, incentives, encouragement, outreach, and measurement. Apply the toolkit to a pilot project to test the legal, theoretical, and practical application of the local hiring toolkit and measure the outcome of local hiring within the design and construction of the pilot project.

Transportation is at the very center of opportunity for jobs, not just by the mobility enabled as a result of new transportation projects but beginning with the very design and construction of those projects. There are several barriers to increasing economic opportunity including the lack of a clear career pipeline for skilled and semi-skilled positions and federally-imposed limitations on local hiring requirements. Recent experiences in Missouri, Minneapolis and elsewhere have demonstrated that these barriers can be reduced and that transportation projects can become economic empowerment opportunities in distressed communities. This approach is consistent with Title VI of the Civil Rights Act.

FY 2012 PERFORMANCE OBJECTIVES:

1. Benchmark existing local jurisdiction efforts in promoting training and hiring residents of distressed communities for design and construction of transportation projects.
2. Create a toolkit for planning transportation projects that includes policy, procurement, incentives, encouragement, outreach, and measurement.
3. Apply the toolkit to a pilot project to test the legal, theoretical, and practical application of the local hiring toolkit and measure the outcome of local hiring within the design and construction of the pilot project.

**BALTIMORE REGION UPWP
FY 2012 UNIFIED PLANNING WORK PROGRAM**

PRODUCTS/MILESTONES	SCHEDULE
Benchmark existing local jurisdiction efforts	1 st Quarter
Create a toolkit for planning transportation projects	2 nd Quarter
Apply the toolkit to a pilot project to test the legal, theoretical, and practical application	3 rd Quarter
Final Report	4 th Quarter

PARTICIPANTS: Baltimore City DOT, Baltimore City Legal Department, Other agencies, and BMC

BUDGET: **\$100,000**

PART D: RECONNECTING COMMUNITIES BISECTED BY 1950s-ERA HIGHWAY PLANNING & DESIGN

PURPOSE: In FY 2010, the Baltimore City Department of Transportation completed feasibility studies for two projects to reconnect communities (Harlem Park and Poppleton by I-70) separated by freeway construction of the 1960s/1970s. Additional connectivity gaps exist where interstates and local highways bisect communities, undermining community and economic development opportunities, and reducing safe pedestrian connectivity within and between communities.

This project will analyze connectivity concerns at the following locations: Central Baltimore near Penn Station (Charles Street over Jones Falls Expressway), I-83 interchange at Cold Spring Lane, MD 295 through Westport, and I-895 on Eastern Ave. Pedestrian connectivity improvements, bridge “flanking” options to allow for additional development, and transit access will be considered. The city intends to select one of these projects for future air rights development.

FY 2012 PERFORMANCE OBJECTIVES:

1. Confirm and scope candidates for study including:
 - a. Jones Falls Expressway at Charles Street
 - b. Interstate ramps at the I-83 interchange at Cold Spring Lane adjacent to light rail station
 - c. MD 295 through the Westport community
 - d. Viaduct over I-895 at Eastern Ave
2. Conduct legal analysis of air rights issues.
3. Conduct early project development analysis including structural engineering, geometric and traffic control issues, evaluate development potential, freight drop-off and parking issues, etc.

PRODUCTS/MILESTONES	SCHEDULE
Confirm and scope candidates for study	1 st Quarter
Conduct legal analysis of air rights issues	2 nd Quarter
Conduct early project development analysis	3 rd Quarter
Final Report and Recommendations	4 th Quarter

PARTICIPANTS: Baltimore City DOT, Planning, Office of Neighborhoods, Baltimore Development Corporation, Community Groups, Consultant, SHA/FHWA

BUDGET: \$175,000

PART E: BICYCLE MASTER PLAN DEVELOPMENT ANALYSIS FIVE YEAR MASTER PLAN REVIEW AND UPDATE

PURPOSE: The Bicycle Master Plan was developed in 2005 and after 5 years of planning initiatives, it is time to review the plan to see what gaps exist, additional planning is required, lessons learned, and where Baltimore City goes from here.

This project will analyze the City’s Bicycle Master Plan in order to evaluate an integrated network of bicycle lanes which encourages bicycling as a viable transportation and commuter option; enhance efforts to collect timely data on and analyze bicycle traffic, develop and implement marketing efforts to promote safe bicycling, and develop a toolkit for complete streets principals.

FY 2012 PERFORMANCE OBJECTIVES:

1. Track data on and analyze bicycle traffic on existing bike lanes and transportation corridors;
2. Develop marketing activities to promote commuter bicycling
3. Develop traffic calming and pedestrian safety measures to enhance bicycling safety
4. Participate with other jurisdictions in the BRTB Bicycle and Pedestrian Task Force as that group works with BMC staff to develop implementation plans, etc.

PRODUCTS/MILESTONES	SCHEDULE
Bicycle Master Plan 5 year review	1 ST Quarter
Develop partnerships for bicycle amenities and locations for bicycle network enhancement	Throughout Fiscal Year
Evaluate trail feasibility and identify stakeholders	Throughout Fiscal Year
Install bicycle and pedestrian count technologies at appropriate locations to evaluate planning efforts	Throughout Fiscal Year
Provide training opportunities for City engineers, planners, and public works inspectors	Throughout Fiscal Year
Track data on and analyze bicycle traffic	Throughout Fiscal Year
Develop marketing activities to promote safe bicycling	1 ST Quarter
Develop toolkit for complete streets principals	3 rd Quarter

PARTICIPANTS: Baltimore City DOT, Planning, Recreation and Parks, Police, Mayor’s Bicycle Advisory Committee

BUDGET: **\$112,500**

TOTAL BALTIMORE CITY SUBAREA BUDGET: **\$772,500**

FHWA Share – \$395,520
FTA Share – \$222,480
Local Share – \$154,500

PROJECT: SUBAREA ANALYSIS: BALTIMORE COUNTY RESPONSIBILITIES

PART A: MODEL ANALYSIS

PURPOSE: Plan refinement studies provide for the development of highway and transit systems usage projections and needs analyses, ultimately leading to updates of corridor and local area multi-modal transportation plans. Support of sub-area transportation systems analysis efforts is a critical first step toward integration of the regionally significant elements of local transportation plans within a regional framework.

Local jurisdictions of the region are encouraged to perform sub-area transportation systems analyses using state-of-the-art planning models. These efforts must be carried out in coordination with BMC model refinement activities. Microcomputer-based planning tools are particularly effective in sensitivity testing of alternative growth and transportation systems scenarios. The results of local sub-area refinement studies will be used to further calibrate the regional model development efforts and identify refinements needing local area improvements. The Baltimore County Subarea Analysis effort for FY 2012 will consist of two major initiatives: (1) conduct County-wide assessments of the No-Build Alternatives for key potential Master Plan improvements e.g., the Dolfield Boulevard/I-795 Interchange, Walther Boulevard/Gunview, Owings Mills Boulevard South, etc. and, (2) apply various TP+ reporting modules to enhance graphical and data analysis.

FY 2010 PERFORMANCE OBJECTIVES:

1. Conduct No-Build/Master Plan assessments study using TP+.
2. Enhance data analysis using various TP+ reporting modules.

PRODUCTS/MILESTONES	SCHEDULE
Electronic documentation of the various sensitivity runs; submit to BMC for review and comment	Throughout Fiscal Year
Memorandum documenting study results	4 TH Quarter

PARTICIPANTS: Baltimore County

BUDGET: \$135,000

PART B: TRIP GENERATION STUDY

PURPOSE: This task involves conducting a study to assess if the generalized trip generation rates for certain land uses in the ITE manual are representative of actual trip generation rates in Baltimore County.

The County has previously done a pilot study of residential trip generation rates in Baltimore County and determined that in certain instances the trip rates are significantly different from ITE rates. This study will identify communities that have limited egress and conduct cordon hose counts.

FY 2012 PERFORMANCE OBJECTIVES:

1. Conduct traffic counts.
2. Analyze data and produce final report.

PRODUCTS/MILESTONES	SCHEDULE
Conduct traffic counts	Throughout Fiscal Year
Analyze data and produce final report	4 th Quarter

PARTICIPANTS: Baltimore County

BUDGET: \$25,000

TOTAL BALTIMORE COUNTY SUBAREA BUDGET: \$160,000

FHWA Share – \$ 81,920
FTA Share – \$ 46,080
Local Share – \$ 32,000

PROJECT: SUBAREA ANALYSIS: HARFORD COUNTY RESPONSIBILITIES

PART A: MD 22 CORRIDOR STUDY

PURPOSE: Perform traffic and safety analysis on MD 22 (Churchville Road/Aberdeen Thruway) from MD 543 (Fountain Green Road to the Aberdeen Proving Ground), including impacts along the corridor associated with the Base Realignment and Closure (BRAC) process.

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The study will include: an existing conditions analysis, a no build analysis, a future conditions analysis based on several scenarios designated to address improved vehicular mobility and safety, improved transit, bicycle and pedestrian facilities along the corridor including the ability and benefits of providing dedicated bus lanes, dedicated bike lanes and sidewalks. In the vicinity of the Harford Community College and the HEAT Center the study will assess Complete Streets components. The study will include a look at providing alternate access to existing communities.

FY 2012 PERFORMANCE OBJECTIVES:

1. Provide a comprehensive traffic operations and safety analysis for the MD 22 corridor that builds on the 2008 MDOT Traffic and Intersection Improvement Studies for BRAC and the 2009 SHA MD 22 Study around Harford Community College.
2. Provide the groundwork for transportation systems management and operation improvements and geometric improvements to transportation facilities along the corridor and vicinity including possible transit upgrades, bike lanes, pavement markings, traffic controls, sidewalks, ADA ramps, lighting and other streetscaping and Complete Streets elements.

PRODUCTS/MILESTONES	SCHEDULE
Existing conditions analysis and simulation	1 st Quarter
Future conditions analysis and simulation	2 nd & 3 rd Quarters
Final report with recommendations	4 th Quarter

PARTICIPANTS: Harford County, BMC, MDOT, Consultant

BUDGET: \$300,000

TOTAL HARFORD COUNTY SUBAREA BUDGET: \$300,000

FHWA Share –	\$153,600
FTA Share –	\$ 86,400
Local Share –	\$ 60,000

PROJECT: SUBAREA ANALYSIS: HOWARD COUNTY RESPONSIBILITIES

PART A: FOCUSED HIGHWAY AND TRANSIT FORECASTS

PURPOSE: Based on the 2035 Baltimore Regional Transportation Plan assumptions, this is a multiyear task to develop baseline 2035 traffic forecasts for Howard County. The forecast results will provide a baseline of traffic forecasts and investigate the viability of various transit alternatives for the County's General Plan update given refinement of land use assumptions in response to growth at Fort Meade, and the County's evolution toward more complex mixed use development patterns. Integration with Anne Arundel County transportation model detail and corridor analysis will be explored to provide a more comprehensive regional analysis. Adjustments to the regional network, the regional zone structure and trip generation inputs will be pursued as needed to develop reliable transit highway simulations and facility level refinements. Modeling tasks will be done primarily by consultants using TP+ software, with advice and assistance from BMC as needed.

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- Validation of the BMC Model in Howard County will include emphasis on detailing the traffic simulation network and traffic analysis zones in Columbia Town Center, the MD 32 BRAC corridor from east of US 29 to the BW Parkway, the US 1 corridor in Howard County, and the MD 216 corridor and will provide additional testing and understanding of the performance of the revised BMC model chain.
- Modal split analysis for the MARC system and its impact on local and regional travel will be investigated.
- Methods and model codes used in testing the BMC model will be shared with all members of the Technical Committee in an effort to improve regional modeling efforts.
- Subarea analysis of individual corridors will provide refined facility level traffic forecasts that will provide base data for the regional Congestion Management Process (CMP).

FY 2012 PERFORMANCE OBJECTIVES:

1. Refine BMC validation for the Howard County validation transportation network with adjustments for traffic analysis zone splits, trip generation inputs, traffic speed, capacity and link detail as needed.
2. Based on refinements to the BMC validation as applied to the year 2035 regional network and the latest Cooperative Forecasts, work cooperatively with BMC to develop year 2035 traffic zone structure, trip generation inputs and a 2035 highway network. Consultants will work independently to develop trip generation related model inputs with BMC review.
3. Using a refined 2035 Howard County highway network and inputs, run regional model to produce 2035 simulated traffic in Howard County.
4. Develop a series of screenline refinements for potential transit concepts, arterial and major collector highway facilities and selected minor collector roads.

PRODUCTS/MILESTONES	SCHEDULE
Develop detailed validation and documentation for Howard County including network detailing for Columbia Downtown, the MD 32 BRAC corridor, and the MD 216 corridor	1 st & 2 nd Quarters
A year 2035 transportation network and related trip generation inputs based on refinements to the Howard County network and alternative land use including potential transit alternatives	2 nd & 3 rd Quarters
Year 2035 unrefined simulated traffic based on the refined BMC 2020 transportation network and revised 2008 transportation model and including the impact of MARC model split and cost benefit	3 rd Quarter
Refine traffic forecasts and document refinement process	4 th Quarter

PARTICIPANTS: Howard County, Consultants

BUDGET: \$113,000

PART B: TRANSIT PLANNING

PURPOSE: This project evaluates the Howard Transit system service performance including route and frequency of service modifications. This initiative will allow Howard County to apply transit performance guidelines to identify cost and performance effectiveness for fixed route and paratransit operations. Route analysis will also be applied to further refine Howard Transit coordination with CMRT and the Maryland Transit Administration's routes and schedules.

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- Application of MTA transit standards will assist in testing the reasonableness of the standards for the Baltimore region.
- Analysis of Howard Transit routes will emphasize regional connections with other transportation systems and modes including MTA, MARC Light Rail, CMRT and the BWI Airport.
- Refinement of routes and schedules will strive to achieve better regional coordination with Maryland Transit Administration's routes and schedules.

FY 2012 PERFORMANCE OBJECTIVES:

1. Apply transit performance tools Howard Transit routes and schedules.
2. Evaluate all Howard Transit bus routes relative to state efficiency measures.
3. Recommend changes to Howard Transit routes and schedules as needed to meet transit performance standards and increase system efficiency and as feasible based on public feedback and funding constraints.

PRODUCTS/MILESTONES	SCHEDULE
Assemble FY 2011/2012 performance data	1 st Quarter
Produce graphics and charts of the application of efficiency measures to Howard Transit	2 nd & 3 rd Quarters
Prepare revised route maps and schedules as needed	4 th Quarter

PARTICIPANTS: Howard County

BUDGET: \$10,700

PART C: BICYCLE PLAN

PURPOSE: To enhance and augment the Baltimore Regional Transportation Plan through the development of a Regionally-consistent Countywide Bike Plan focused on increasing local and regional bicycle mobility, accessibility and transportation efficiency. The Howard County Bike Plan will incorporate BRTB approved planning goals and strategies, and will be consistent with State of Maryland “Green Print” and “Growth Print” concepts to insure that regional as well as local bicycling policies and projects are incorporated in the Plan. Year 2012 activities will include Bicycle Level of Compatibility (BLOC) analysis, identification of road segments and pathways consistent with a cycling network, identification and prioritization of roads and other facilities where County bike projects are needed, and identification of policies and programs to support bicycle transportation. Connectivity with Regional Partners’ proposals as well as Major Activity Centers will be a priority. Design elements will incorporate as applicable, signal design, bicycle lanes, off-road facilities, signing and other location-specific solutions improve bicycle access county-wide.

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- Application of BRTB Long Range Plan Goals through “Green Print” and “Growth Print” concepts to further bicycle transportation and regional connectivity for bicycle planning.
- Refinement of BRTB bicycle planning to a sub-regional level giving more depth and detail to the regional bicycle network.
- Advancement and improved integration with SHA bicycle and pedestrian planning for on-going and future project planning.

FY 2012 PERFORMANCE OBJECTIVES:

1. In collaboration with the Howard County Departments of Public Works (DPW) and Department of Recreation and Parks (DRP), develop policies which will govern the development of a Bicycle Plan and network in Howard County.
2. Inventory County Minor Collectors and above for bicycle compatibility and correlate this inventory with the DPW and DRP maintenance/repair schedules, capital projects as well as private sector developments-in-progress to potentially garner cost effective bicycle improvements.
3. Develop an inventory of bicycle compatible facilities as well as those road segments and travel paths where improvements are needed. Incorporate Regional partners’ proposals and needs where pertinent. Map the needs analysis including categorization of types of needs.

4. Establish a Bicycle Advisory Group and conduct necessary public outreach activities to provide opportunities for citizen and stakeholder input throughout the planning process.
5. Based on the inventory, develop a project list, detailed maps, general assessments of right of way constraints and preliminary costs. Vet these with bicycle and community groups, the public at large, and stakeholder agencies at the State and local levels. Insure regional connectivity wherever possible.
6. Identify key bicycle design concepts and signage consistent with “complete street” concepts and develop design templates that can be used for future implementation of the bicycle network. Identify other needed policies and programs to support bicycle transportation.
7. Develop prioritization criteria consistent with local opportunities and policies, Regional criteria, and realistic funding expectations. Prioritize the project list.
8. Coordinate with consultant to develop preliminary cost estimates; general assessments of right of way constraints and environmental approval and other review for these locations needed for bicycle improvements.
9. Work with the consultant and local and regional bicycle stake holders to prepare project prioritization and “complete street” bicycle design recommendations into a final Bike Plan document. Develop review and approval process.

PRODUCTS/MILESTONES	SCHEDULE
Develop policies to guide development of the Bike Plan and implementation.	1 st Quarter
Inventory Minor Collectors and above for Bicycle compatibility and project potential.	1 st Quarter
Develop Countywide Bicycle Needs Analysis.	2 nd Quarter
Establish Bike Advisory Group and finalize Bike projects list. Prioritize. Develop complete street bike design concepts	2 nd & 3 rd Quarters
Complete stake holder review of Bike Projects in combination with bike design concepts.	3 rd Quarter
Develop Bike Plan document and final stake holders review	4 th Quarter
Distribution of Bike Plan to all local and regional stakeholders	4 th Quarter

PARTICIPANTS: Howard County agencies, Consultants

BUDGET: \$209,000

TOTAL HOWARD COUNTY SUBAREA BUDGET: \$332,700

FHWA Share –	\$170,342
FTA Share –	\$ 95,818
Local Share –	\$ 66,540

PROJECT: TECHNICAL ANALYSIS IN SUPPORT OF STATE INITIATIVES

PURPOSE: To provide special technical assistance to the modal administrations of MDOT and, at the request of MDOT, other state agencies (such as the Maryland Department of the Environment or the Maryland Department of Planning) in transportation planning activities related to the Baltimore region.

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The BMC's staff involvement in MDOT efforts provides an opportunity to build regional considerations into statewide studies. The use of BMC-generated data also ensures the inclusion of regional growth and development goals and forecasts, as well as regional priorities for transportation improvements. In FY 2008, BMC staff continued to assist MDOT/Maryland Transit Administration by providing technical information related to the Red Line Transit Study, as well as provide travel demand model forecasts and analysis to the State Highway Administration and the Maryland Transportation Authority.

In FY 2012, the BMC staff will provide technical assistance to MDOT in a variety of highway, transit and other modal systems studies. Collaboration includes project planning studies, feasibility/special studies, transportation performance measures, training/miscellaneous support and statewide transportation modeling support as follows:

Project Planning Studies

The work scope will account for technical support in travel demand modeling (primarily network coding) and alternative evaluations (model Measures of Effectiveness (MOE) output) of ongoing and upcoming project planning studies. Current project planning studies include, however are not limited to the MD 32 Corridor Study in Anne Arundel and Howard Counties, MD 198 in Anne Arundel County and 1-795 in Baltimore County. Work activities also involve meeting with requesting agencies to discuss proposed projects, drafting and finalizing work statements and tasks, creating projects when authorized and progress reporting.

Feasibility/Special Studies

This work task will provide funding for technical support on feasibility/special studies as requested by MOOT and SHA. Work may include, however is not limited to supplementation of ongoing corridor/sub area analysis, land use-policy-network scenario testing, transit-oriented development (TOD) and special generator analysis, regional toll sensitivity analysis testing, freight analysis (potential corridors include 1-83, 1-95 and 1-70) and analysis of demographic data from the BMC synthetic population generation process.

Transportation Performance Measures

This work task overlaps the BRTB's planned effort to evaluate performance measures at the project, systems and sub area levels. SHA requires measurable results on system performance benefits to compare the relative merits of individual projects proposed for implementation or for use in refining and/or determining priorities amongst the Maryland Highway Needs Inventory and for Constrained Long-Range Plan (CLRP) scenario testing. Measures will be defined and estimated at the appropriate local, sub area, corridor and/or regional levels to enable a consistent assessment of specified projects and programs, however could include Levels of Service (LOS), Travel Time Delay, Vehicle Miles Traveled (VMT) and environmental/Green House Gas (GHG) emissions.

Training/Miscellaneous Technical Support

This work task accounts for coordination on periodic updates of the Baltimore Metropolitan Regional Travel Demand Model (Version 4 with new mode choice and toll model), model networks and land use files and future modeling procedures (Population Synthesizer (POPGEN) and PECAS Land Use modeling) to MDOT and SHA.

Statewide Transportation Modeling Support

This work task provides funding for MDOT, SHA, other modals and BMC to collectively evaluate the Maryland Statewide Transportation Model (MSTM) output and to integrate

future model enhancements and results from MSTM to the regional travel demand model. BMC will apply the MSTM freight and long-distance travel demand model components to its regional travel demand model and investigate the MSTM destination choice model. MDOT and SHA will investigate the population synthesizer POPGEN from the BMC travel demand model.

FY 2012 PERFORMANCE OBJECTIVES:

1. Prepare technical work scopes and project budget prior to the commencement of work on the proposed technical study efforts.
2. Provide technical support upon request from MDOT to assist in specific project studies.
3. Perform miscellaneous technical studies and provide information at the request of MDOT and its modal administrations.

PRODUCTS/MILESTONES	SCHEDULE
Work scopes	Throughout Fiscal Year
Task reports/memoranda documenting technical studies	Throughout Fiscal Year

PARTICIPANTS: Baltimore Metropolitan Council

BUDGET: **\$100,000**

FHWA Share – **\$51,200**
 FTA Share – **\$28,800**
 MDOT Share – **\$10,000**
 Local Share – **\$10,000**