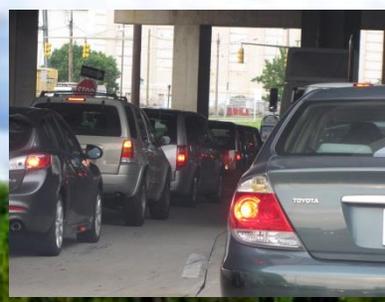

CONFORMITY DETERMINATION OF THE 2017-2020 TRANSPORTATION IMPROVEMENT PROGRAM AND THE AMENDED *MAXIMIZE2040* - APPENDICES

Prepared by the Baltimore Regional Transportation Board



Appendix A: Conformity Requirement Checklist

Section of 40 CFR Part 93	Requirement	BRTB's Response
§93.110	Is the conformity determination based upon the latest planning assumptions?	Yes
	(a) Is the conformity determination, with respect to all other applicable criteria in §93.111-§93.119, based upon the most recent planning assumptions in force at the time of the conformity determination?	(a) Yes. The conformity determination uses the most current planning assumptions in force and approved by the BRTB at the time of the determination. Vehicle fleet characteristics used reflect 2014 vehicle registration data for the Baltimore region.
	(b) Are the assumptions derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other designated agency? Is the conformity determination based upon the latest assumptions about current and future background concentrations?	(b) Yes. This conformity determination utilizes the most recent demographic and employment data; it uses Round 8A socioeconomic forecasts endorsed by the BRTB on June 24, 2014. Also, the travel demand model has been updated, and now is validated to a 2010 base year.
	(c) Are any changes in the transit operating policies (including fares and service levels) and assumed transit ridership discussed in the determination?	(c) Yes. All existing and proposed transit systems and service for the planning horizons have been included in the conformity analysis.
	(d) The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time.	(d) See above.
	(e) The conformity determination must use the latest existing information regarding the effectiveness of the transportation control measures (TCMs) and other implementation plan measures that have already been implemented.	(e) Currently, there are no adopted TCMs in the corresponding SIPs.
	(f) Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by §93.105.	(f) Key assumptions are specified and other supporting documents are included in this conformity determination document, which is available to the public and the Interagency Consultation Group.

Appendix A: Conformity Requirement Checklist

<i>Section of 40 CFR Part 93</i>	<i>Requirement</i>	<i>BRTB's Response</i>
§93.111	Is the conformity determination based upon the latest emissions model?	Yes. EPA's latest emissions model, Motor Vehicle Emissions Simulator (MOVES) 2014 was used for this conformity determination.
§93.112	Did the MPO make the conformity determination according to the consultation procedures of the Conformity Rule or the state's conformity SIP?	[Section to be complete in the Final Appendices.]
§93.106(a) (1)	(1) Are the transportation plan horizon years correct?	Yes. The first modeled horizon year is 2017 , the last full ozone season prior to the attainment date for the 2008 ozone NAAQS, for moderate nonattainment areas. The second two horizon years are 2025 and 2035 , test scenarios set so that there are no more than 10 years between horizon years. The fourth horizon year is 2040 , the date of full implementation of the Plan.
§93.106(a) (2)(i)	Does the plan quantify and document the demographic and employment factors influencing transportation demand?	Yes. Round 8A socioeconomic forecasts are available in the appendices of this document.
§93.106(a) (2)(ii)	Is the highway and transit system adequately described in terms of regionally significant additions or modifications to the existing transportation network which the transportation plan envisions to be operational in horizon years?	Yes. The regionally significant additions and modifications to the network utilized in this conformity analysis are listed in Appendix C. It provides a listing of projects from the 2017-2020 TIP.
§93.108	Is the transportation plan fiscally constrained?	Yes. The transportation plan is fiscally constrained. See the Fiscal Constraint section.
§93.113(b)	Are TCMs being implemented in a timely manner?	There are no transportation control measures in the SIP.
§93.118	For Areas with SIP Budgets: Is the Transportation Plan, TIP, or Project consistent with the established motor vehicle emissions budget(s) in the applicable SIP?	Yes. The TIP and the Plan result in fewer emissions than the established budgets for all pollutants in each applicable analysis year.

Appendix B: Interagency Consultation

The major steps of the Interagency Consultation Process regarding the Conformity Determination of the 2017-2020 Transportation Improvement Program and the Amended Maximize 2040 took place at the following meetings:

- May 18, 2016 Interagency Consultation Group – results presented with support to release for public review
- July 6, 2016 Interagency Consultation Group – recommend BRTB approval of the Conformity Determination
- July 6, 2016 Public Advisory Committee – review and comment opportunity on the Conformity Determination, TIP, and Plan Amendment
- July 26, 2016 BRTB Meeting – approval of the Conformity Determination, TIP, and Plan Amendment

Appendices C-1 through C-4: Conformity Status of Projects from the 2017-2020 TIP

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2017	MD 175: National Business Parkway to McCarron Court	61-1701-41	SHA	<p>Project: This project will widen MD 175 from National Business Parkway to McCarron Court from two lanes to six lanes, including through the MD 295 interchange. It also reconfigures ramps in the northeast and southwest quadrants of the MD 295 interchange to create signalized left turns at MD 175. Bicycle and pedestrian facilities will be provided. Construction will continue beyond the FY17-20 TIP with completion anticipated in late fall of 2021.</p> <p>This project is Phase 1 of the improvements identified in the MD 175: MD 295 to MD 170 corridor project, which has TIP ID # 61-0605-41. Phase 2, widening MD 175 from Disney Road to Reece Road, has TIP ID# 61-1601-41.</p> <p>Justification: This project will improve safety and operation along MD 175 and ease growing congestion related to the BRAC expansion at Fort Meade.</p> <p>Widening: 2 to 6 lanes (1.1 miles)</p> <p>LRP Page #: 4-6</p>	N	Anne Arundel County	2021
2017	MD 32: Linden Church Road to I-70, Capacity & Safety Improvements	66-1703-41	SHA	<p>Project: The project will construct capacity and safety improvements along MD 32, from north of Linden Church Road to I-70. This is a design build project and phase II of the MD 32: MD 108 to I-70 Corridor project improvements. This is the final phase and contains the funding for the original corridor project planning. Phase 1, MD 108 to Linden Church Road, has TIP ID #66-1602-41.</p> <p>Justification: The project will address congestion and safety problems which have been experienced as a result of increasing traffic volumes on the existing two lane roadway.</p> <p>Widening: 2 to 4 Lanes (6.6 miles)</p> <p>LRP Page #: 4-11 (note new Plan amendment planned for July 2016)</p>	N	Howard County	2021

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2016	I-695: Bridge Replacements at Benson Ave and US 1	63-1602-43	SHA	<p>Project: Replacement of Bridge 0311305 on I-695 Inner Loop over Benson Ave; Bridge 0311405 on I-695 Inner Loop over Leeds Avenue, US 1, AMTRAK and Herbert Run. The project also includes the realignment of access to the I-695 northbound on-ramp from Leeds Ave. to US 1. Both bridges will be widened to accommodate the future widening of I-695 to improve safety. Acceleration lanes, merges, tapers, and gores from I-95 Southbound to the Inner Loop will be extended to meet current standards. No additional lanes are being added at this time. US 1 will be narrowed to one lane in each direction extending approximately 2,400 feet north and south of I-695. A bicycle lane will be created and pavement will be removed for storm water management. This project is a breakout of the larger corridor project, I-695 from I-95 to MD 122, which has TIP ID #63-0602-41 and separate funding flows.</p> <p>Justification: The bridges on I-695 Inner Loop over Benson and Leeds/US 1/ AMTRAK/ Herbert Run are nearing the end of their useful life and are structurally deficient. An existing ramp is being realigned as part of this project to provide a more direct connection from US 1 to the Inner Loop of I-695 and remove interstate traffic from residential areas.</p> <p>Widening: Not at this time; Road diet on Rte 1</p> <p>LRP Page #: 4-9 (larger project); 4-19 (breakout)</p>	N	Baltimore County	2017

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2016	I-695: US 40 to MD 144	63-1601-41	SHA	<p>Project: This project will widen I-695 outer loop from US 40 to MD 144 from three to four through lanes. This project will also accommodate the final configuration of this section of the beltway.</p> <p>This project is a breakout of the I-695, from I-95 to MD 122, corridor project, which has TIP ID #63-0602-41.</p> <p>Justification: This project will provide additional capacity and improve safety and operations on this segment of I-695.</p> <p>Widening: 3 to 4 lanes</p> <p>LRP Page #: 4-9 (larger project); 4-19 (breakout)</p>	N	Baltimore County	2021
2016	MD 175: Disney Road to Reece Road	61-1601-41	SHA	<p>Project: This project is Phase 2 of the MD 175: MD 295 to MD 170 corridor project, TIP ID #61-0605-41. It will widen MD 175 from Disney Road to Reece Road, from the existing two lane roadway to a six lane roadway. Bicycle and pedestrian facilities will be provided.</p> <p>Justification: This project will improve safety and operations along MD 175 and ease growing congestion related to BRAC expansion at Fort Meade.</p> <p>Widening: 2 to 6 lanes (1.13 miles)</p> <p>LRP Page #:4-6</p>	N	Anne Arundel County	2020

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2016	MD 32: MD 108 to Linden Church Road	66-1602-41	SHA	<p>Project: Widen MD 32 in both directions, from two lanes to a four lane divided roadway, from MD 108 to Linden Church Road. This project is segment 1 of the MD 32: MD 108 to I-70 Corridor project that has TIP Reference #66-1405-41.</p> <p>Justification: This project will address congestion and safety problems which have been experienced as a result of increasing traffic volumes on the existing two lane roadway.</p> <p>Widening: 2 to 4 lanes (2.25 miles)</p> <p>LRP Page #: 4-11</p>	N	Howard County	2020
2014	MD 175: Mapes Road and Reece Road Intersection Reconstruction	61-1402-39	SHA	<p>Project: Construct intersection capacity improvements at Mapes Road/Charter Oaks Boulevard and Reece Road (MD 174) (BRAC intersection improvement).</p> <p>Justification: This project will improve safety and operations along MD 175 and ease growing congestion resulting from the BRAC expansion of Fort Meade.</p> <p>Widening: (1 mile)</p> <p>LRP Page #: 4-6</p>	N	Anne Arundel County	2018

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	MD 198: MD 295 to MD 32	61-1403-41	SHA	<p>Project: This project will address capacity needs on MD 198 from MD 295 to MD 32. Bicycle and pedestrian access will be provided where appropriate. (BRAC related)</p> <p>Phase I, MD 198/MD 295 partial interchange project is funded for preliminary engineering. This phase will widen the roadway to add turning lanes; however, it does not add additional through lanes.</p> <p>The estimated total cost includes projected funding that will be required to construct the remainder of corridor improvements. No schedule or funding for remaining segments have been identified.</p> <p>Justification: MD 198 is a key link to Fort Meade from points south and west. The area in and around Fort Meade will experience substantial growth as a result of BRAC expansion.</p> <p>Widening: 2 to 4 lanes (2.7 miles)</p> <p>LRP Page #: 4-9</p>	N	Anne Arundel County	2030

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	MD 22: Paradise Road Intersection Reconstruction	65-1403-41	SHA	<p>Project: Provide an additional lane in each direction on MD 22 between MD 462 and Beards Hill Road intersections, which results in three through lanes in each direction. MD 462 will be widened to provide exclusive left and right-turn lanes in both northbound and southbound directions. Sound Barriers will be installed along MD 22 east of MD 462. Bicycle-compatible shoulders are being provided along MD 22 in accordance with SHA bike policy.</p> <p>Justification: Improved access to Aberdeen Proving Ground is a vital component needed to accommodate the increase of employment as a result of BRAC. The intersection improvements will improve safety, capacity and operations in the near-term.</p> <p>Widening: 4 to 6 lanes</p> <p>LRP Page #: 4-10</p>	N	Harford County	2017

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	US 29: Middle Patuxent River to Seneca Drive - Phase 2	66-1406-41	SHA	<p>Project: Widen the northbound section of US 29 from the Middle Patuxent River to Seneca Drive (Phase 2) from 2 to 3 lanes (1.7 miles). This project includes intersection improvements at Rivers Edge Road.</p> <p>Related projects include: US 29: Seneca Drive to MD 175 - Phase 1A, Old Columbia Road Access Only (TIP ID # 66-1601-42) as well as US 29: Seneca Lane to MD 175 - Phase 1B (TIP ID # 66-1101-41).</p> <p>The estimated total cost includes projected funding that will be required to construct this project. No schedule or funding for construction have been identified.</p> <p>Justification: This project will improve safety and reduce congestion by upgrading northbound US 29 to match the southbound section, which is currently 3 lanes in each direction.</p> <p>Widening: 5 to 6 lanes (1.7 miles)</p> <p>LRP Page #: 4-11</p>	N	Howard County	2030

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	US 40: MD 7 & MD 159 Intersection Reconstruction - Phase 2	65-1402-41	SHA	<p>Project: The project includes widening US 40 from two through lanes to three through lanes in each direction, plus added turn lanes. West bound US 40 widening will extend approximately 2,500 feet west of MD 7. East bound US 40 widening will extend approximately 3,000 feet east to tie into previous widening at the MD 715 interchange. MD 159 will be modified to tie into US 40 eastbound widening. The bridge over Cranberry Run will also be widened.</p> <p>Justification: Improved access to Aberdeen Proving Ground is a vital component needed to accommodate the increase of employment as a result of BRAC. The intersection improvements will improve safety, capacity and operations in the near-term.</p> <p>Widening: 4 to 6 lanes</p> <p>LRP Page #:4-19</p>	N	Harford County	2019
2014	US 50: MD 70 to MD 2	61-1404-41	SHA	<p>Project: Project to ease congestion on US 50 from MD 70 to MD 2 (northbound), by restriping lanes on the Severn River/Pearl Harbor Memorial Bridge to accommodate one additional eastbound travel lane for the length of the project.</p> <p>Justification: The approaches to the Severn River/Pearl Harbor Memorial Bridge experience severe congestion, particularly the eastbound direction during the evening peak period.</p> <p>Widening: 6 to 7 lanes (1.66 miles)</p> <p>LRP Page #: 4-6</p>	N	Anne Arundel County	2019

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	I-695: MD 41 to MD 147 Auxiliary Lane and MD 147 Inner Loop Ramp Reconstruction	63-1206-41	SHA	<p>Project: The purpose of this project is to provide a continuous auxiliary lane on both the Inner and Outer Loops of I-695 between MD 41 (Perring Parkway) and MD 147 (Harford Road). Other improvements include a wider median, wider shoulders and replacement of the existing Old Harford Road bridge over I-695, accommodating future widening along I-695.</p> <p>This project also includes the reconfiguration of an existing one-lane ramp off of the I-695 Inner Loop at MD 147 (Harford Road). The new ramp will increase from one to three lanes, including a double-left and an exclusive right-turn lane. A traffic signal and 350 feet of storage capacity will be provided on MD 147. The existing one-lane loop ramp will be removed, eliminating a weave movement on this section of I-695.</p> <p>Justification: These changes will increase capacity and improve safety on this segment of the I-695 Beltway.</p> <p>Widening: 6 to 8 lanes (1.1 miles)</p> <p>LRP Page #: 4-19</p>	N	Baltimore County	2017

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	MD 140: Garrison View Road to Painters Mill Road - Phase 1	63-1203-41	SHA	<p>Project: Improvements include widening northbound MD 140 to provide a third through lane (lane is 16-wide bicycle-compatible) and 5' raised median, constructing 5 ADA-compliant sidewalks, resurfacing roadway, landscaping, and utility relocations. Southbound improvements to be provided by developer. Culvert and utility work; done under an advanced contract, is complete.</p> <p>This is phase 1 of MD 140 construction. Phase 2 is the MD 140: North of Painters Mill Road to Owings Mills Boulevard project (TIP ID #63-0802-41).</p> <p>Justification: The purpose of this project is to relieve current and anticipated traffic congestion based on background growth and proposed development, including Transit Oriented Development at the Owings Mills Metro Station. The project will address safety and operational concerns along MD 140. It will help reduce overall delays along the corridor and enhance vehicular and pedestrian safety.</p> <p>Widening: 2 to 3 lanes (0.2 miles)</p> <p>LRP Page #: 4-6</p>	N	Baltimore County	2021

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	MD 22: Beards Hill Road Intersection Reconstruction	65-1205-41	SHA	<p>Project: The project includes adding an additional lane on MD 22 eastbound and westbound (outside widening) and an additional left-turn lane from MD 22 eastbound to Beards Hill Road. This results in a capacity increase from two to three through lanes both eastbound and westbound.</p> <p>The existing left-turn lanes on Beards Hill Road will be widened to double left-turn lanes on each approach to MD 22.</p> <p>Justification: Improved access to Aberdeen Proving Ground is a vital component needed to accommodate the increase of employment as a result of BRAC. The intersection improvements will improve safety, capacity and operations in the near-term.</p> <p>Widening: 4 to 6 lanes</p> <p>LRP Page #: 4-10</p>	N	Harford County	2017
2011	US 29: Seneca Drive to MD 175 Phase 1B	66-1101-41	SHA	<p>Project: The US 29 northbound widening project from Seneca Drive to south of MD 175, a distance of 2.8 miles, includes widening into the median to add a third lane. The improvement will extend the acceleration and deceleration lanes at the Seneca Drive interchange and remove the existing access point at Gales Lane.</p> <p>Justification: The project will improve safety and reduce congestion by upgrading northbound US 29 to match the southbound section, which is currently 3 lanes.</p> <p>Widening: 5 to 6 lanes (2.8 miles)</p>	N	Howard County	2017

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2008	I-795: Dolfield Boulevard Interchange	63-0803-46	SHA	<p>Project: This study has identified a preferred alternative that constructs a new interchange at the existing Pleasant Hill Road overpass. The project also includes widening I-795 from 4 to 6 lanes between Owings Mills and Franklin Boulevards. Funding will take preliminary engineering to the 30% stage, when phasing options will be evaluated. Estimated Total Cost includes projected funding that will be required to construct this project. No schedule or funding for construction have been determined.</p> <p>Justification: This project would provide improved access to the planned growth corridor along Red Run Boulevard in Owings Mills.</p> <p>Widening: full interchange; 2 to 3 lanes</p> <p>LRP Page #: 4-9</p>	N	Baltimore County	2026

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2008	MD 140: Painters Mill Road to Owings Mills Boulevard (Phase 2)	63-0802-41	SHA	<p>Project: Capacity and safety improvements to MD 140 from north of Painters Mill Road to Owings Mills Boulevard including; an additional through lane on southbound MD 140, addition of left and right turn lanes, and added width for bicycle compatability. This results in two through lanes on northbound MD 140 and three through lanes on southbound MD 140. Pedestrian improvements will be provided where appropriate. Estimated Total Cost includes projected funding that will be required to construct this project. No schedule or funding for construction have been determined.</p> <p>This is phase 2 of MD 140 corridor improvements. Phase I - MD 140: Garrison View Road to Painters Mill Road, including the intersection, has TIP ID #63-1203-41.</p> <p>Justification: This project will provide additional capacity and access to planned development in Owings Mills, including the Owings Mills Town Center, the Owings Mills Metro Station, and the MD 140 business corridor. It will improve safety and address operational concerns along MD 140, while reducing delays along the corridor and enhancing pedestrian safety.</p> <p>Widening: 2 to 3 lanes (0.75 miles)</p> <p>LRP Page #: 4-6</p>	N	Baltimore County	2025

Appendix C-1: Non-Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2006	MD 175: MD 295 to MD 170	61-0605-41	SHA	<p>Project: The purpose of this project is to improve access to Fort Meade. The section from MD 295 to MD 32 includes widening from 2 or 4 lanes to 6 lanes. The section from MD 32 to MD 170 includes interchange and intersection improvements. The entire corridor will see bicycle and pedestrian accommodations.</p> <p>Segment 1, MD 175/MD 295 interchange, from National Business Parkway to McCarron Court, has TIP ID# 61-1701-41. Segment 2, MD 175: Disney Road to Reece Road, has TIP ID# 61-1601-41. No schedule or funding for remaining segments has been identified.</p> <p>Justification: This project will improve safety and operations along MD 175 and ease growing congestion related to BRAC expansion at Fort Meade.</p> <p>Widening: 2/4 lanes to 6-lane divided (5.2 miles)</p> <p>LRP Page #: 4-6</p>	N	Anne Arundel County	2025

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2017	I-695: Bridge Replacement on Crosby Road	63-1702-43	SHA	The project will replace bridge no. 03125 along Crosby Road over I-695. The replacement bridge will accommodate future widening of I-695. No additional capacity is being provided at this time. (2 to 2 lanes)	Y	Baltimore County	2021
2017	I-70 & I-695: Triple Bridges Study	63-1705-43	SHA	The project is the I-70/I-695 triple bridges study to replace or rehabilitate bridges no. 0312703, 0312704, 0312805, 0312806, 0312903 and 0312904. The project is funded for project planning only.	Y	Baltimore County	2025
2017	I-83: Bridge Replacement over Padonia Road	63-1701-13	SHA	Replace bridge no. 03062 along I-83 over Padonia Road, which carries both northbound and southbound traffic. (3 to 3 lanes)	Y	Baltimore County	2019
2017	I-95: Montgomery Road to I-895 Noise Barrier	66-1701-31	SHA	The project will construct a noise wall along I-95, from the Montgomery Road overpass to the I-895 interchange. Construction began in Fall of 2015.	Y	Howard County	2018
2017	MD 137: Bridge Replacement over I-83	63-1703-13	SHA	The project replaces bridge no. 03050 along MD 137 (Mount Carmel Road) over I-83. (2 to 2 lanes)	Y	Baltimore County	2018
2017	MD 32: MD 26 to I-70 Corridor Study	64-1703-41	SHA	The project is a Planning and Environmental Linkages (PEL) study to determine capacity and safety improvements along MD 32 (Sykesville Road) from MD 26 (Liberty Road) to I-70 in Howard County (7.5 miles). The project is funded for pre-NEPA project planning only.	Y	Carroll County	n/a
2017	MD 32: Triadelphia Road Bridge Replacement	66-1702-13	SHA	The project will replace bridge no. 013045 along Triadelphia Road over MD 32. The new bridge will accommodate the capacity improvements along MD 32, TIP #66-1703-41. Construction is state funded and will begin after FY 2020.	Y	Howard County	2022

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2017	MD 496: Bridge Replacement over Big Pipe Creek	64-1702-13	SHA	The project will replace bridge no. 06038 along MD 496 (Bachmans Valley Road) over Big Pipe Creek. (2 to 2 lanes)	Y	Carroll County	2019
2017	MD 86: Bridge Replacement over Gunpowder Falls	64-1701-13	SHA	The project will replace bridge no. 06019 along MD 86 (Lineboro Road) over the South Branch of Gunpowder Falls. (2 to 2 lanes)	Y	Carroll County	2018
2017	US 1: Bridge Replacement over CSX	63-1704-13	SHA	The project will replace bridge no. 03008 along US 1 (Washington Boulevard) over CSX railroad track and property. (4 to 4 lanes)	Y	Baltimore County	2019
2017	US 40: Bridge Replacements over Little & Big Gunpowder Falls	63-1706-13	SHA	This project will replace bridges #0303403 and #0303404 along eastbound and westbound US 40 over Little Gunpowder Falls and bridges #0303503 and #0303504 along eastbound and westbound US 40 over Big Gunpowder Falls. The new bridges will maintain two 12 foot lanes on each bridge, as well as 4 foot inside shoulders and 10 foot outside shoulders to match the approach roadways. (4 to 4 lanes)	Y	Baltimore County	2018
2017	Water Transit Strategic Plan Implementation	42-1701-09	MTA - Transit	The Baltimore City Department of Transportation (BCDOT) Water Transit Strategic Plan has identified ways to improve the effectiveness of water travel services, increase regional connections, develop a financeable expansion plan, and improve the financial sustainability of water transit services. The strategic plan has been broken down into phases, with this project implementing Phase 1. In Phase 1, BCDOT will rebrand the Harbor Connector so that it is clearly an extension of the Charm City Circulator, enhance ADA accessibility by modifying the height of landing floats to permit level boarding, and improve passenger amenities at landings including shelters, seating, signage and wayfinding signs.	Y	Baltimore City	2018

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2016	MTA Core Bus and Paratransit Vehicle Replacement	40-1601-05	MTA - Transit	This project provides for the routine replacement of buses past their useful service life. Planned bus purchases include 172 forty-foot clean diesel buses - 162 for fleet replacement and 10 buses to contribute to the BaltimoreLink project. This project will also cover the purchase of vehicles under MTA's Mobility (paratransit) program.	Y	Regional	Ongoing
2016	Urban Transit Systems - Capital	40-1602-05	MTA - Transit	Capital assistance for the purchase of vehicles, equipment, and facilities, for Harford County (Harford County Transportation Services).	Y	Regional	Ongoing
2016	Urban Transit Systems - Operating	40-1603-05	MTA - Transit	Operating assistance to Urban Transit systems throughout the Urbanized Aberdeen region. Transit agencies eligible for funding include Harford County.	Y	Regional	Ongoing
2016	MD 24: South of Stirrup Run Culvert to Deer Creek Bridge, Section G	65-1601-12	SHA	MD 24 will be resurfaced and reconstructed including slope repair and guardrail replacement. This is the southern section (Section G) of MD 24, Rocks Road, from 900 feet south of Sharon Road to 1,700 feet north of Ferncliff Lane.	Y	Harford County	FY 2020-FY 2029
2016	MD 25: Bridge Replacement over Georges Run	63-1603-13	SHA	Replace bridge #0301900 along MD 25, Falls Road, over Georges Run. (2 to 2 lanes)	Y	Baltimore County	2016
2016	US 29: Seneca Drive to MD 175 Phase 1A, Old Columbia Road Access Only	66-1601-42	SHA	Construct access improvements by relocating direct access to Old Columbia Drive from US 29 to the local road system (Phase 1A). Gales Lane will be closed as part of US 29 Phase 1B widening project, TIP #66-1101-41. Three residences along Gales Lane are being relocated. Construction is complete and residences will be relocated by 2018.	Y	Howard County	2015

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2015	MARC Facilities	70-1503-55	MTA - Commuter Rail	<p>1) Procure Riverside Maint. Facility, CSXT has offered to sell to MTA. Maint. activities for equip. on the MARC Camden Line would then be under direct control of MARC. MTA & CSX are jointly working w/MDE to remediate hazardous material contamination.</p> <p>2) BWI - Comprehensive structural inspection of garages, w/design & construction of recommended structural repairs. Repairs to Mechanical, Plumbing, Fire Protection/electrical systems & elevators.</p> <p>3) W. Baltimore Station Improvements Phase I Make improvements to the existing W. Balto. MARC Station to allow for barrier free access & make it ADA compliant by installing a pedestrian plaza, elevators, wayside lifts & platform improvements.</p> <p>4) MARC Martin State Airport Purchase private property & construct 2 additional storage tracks w/related infrastructure.</p>	Y	Regional	2021
2015	MARC Improvements	70-1502-54	MTA - Commuter Rail	This project provides funding to implement ongoing improvements derived from the MARC Master Plan and Amtrak Operating Agreement. These improvements include: Baltimore Penn Station Lighting Design, B&P Tunnel Block Ties, B&P Lighting Improvements, Inner Track Platform upgrades, Lead Track to Jessup Yard, Camden Positive Train Control, Perryville P&R Lot Repairs, and MARC Station Parking Lot Beautification.	Y	Regional	Ongoing
2015	MARC Rolling Stock Overhauls and Replacement	70-1501-53	MTA - Commuter Rail	This is an ongoing project for the overhaul and replacement of MARC rolling stock. The overhaul of MARC coaches and locomotives is performed in accordance with "10-year Minor" and "20-year Midlife" schedules and/or the manufacturer's schedule. MARC vehicles will be upgraded with federally-mandated Positive Train Control safety features.	Y	Regional	Ongoing
2015	Seniors and Individuals with Disabilities	40-1502-69	MTA - Transit	Capital and Operating assistance to provide non-profit agencies with funding to support transportation of the elderly and individuals with disabilities. Based upon the Baltimore Area Coordinated Public Transit - Human Services Transportation Plan, a competitive selection process results in awards.	Y	Regional	Ongoing

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	Metro Railcar and Signaling Systems Rehab and Replacement	40-1403-64	MTA - Transit	The Metro Railcar fleet consists of 90 cars (45 semi-permanent married pairs). Based on the 30 year design life, the Metro cars are due for replacement. The replacement of the railcar fleet will provide passengers with enhanced comfort, conveniences and ensure improved reliability.	Y	Regional	2022
2014	Port of Baltimore Enhancements	92-1401-83	Office of the Secretary	MPAs TIGER project has three portions: provide rail access to Fairfield Marine Terminal; widening and straightening the navigation channel to Seagirt Marine Terminal; and filling the Fairfield Basin to develop seven acres of new land for cargo storage.	Y	Baltimore City	2018
2014	State Safety Oversight	90-1401-39	Office of the Secretary	The Maryland Department of Transportation(MDOT) intends to use these Section 5329 Funds to provide administrative expenses for training, consultant services and miscellaneous equipment to oversee MTAs Light Rail and Metro systems and its operations in the Baltimore, Maryland metropolitan area.	Y	Regional	Ongoing
2014	Susquehanna Bridges	95-1401-59	Office of the Secretary	Preliminary Engineering and National Environmental Policy Act (NEPA) analysis for a bridge replacement of the existing Northeast Corridor Susquehanna River Bridge. The NEPA study will examine alternatives that will provide for safety and capacity improvements on the Northeast Corridor.	Y	Harford County	n/a
2014	MD 295: I-895 to North of Daisy Avenue - Noise Wall	63-1405-31	SHA	This project will install noise walls along MD 295 to reduce highway noise for residents of the Riverview and Baltimore Highlands communities in Baltimore County. The project will also include the construction of drainage systems to allow stormwater to continue downstream and landscaping (tree plantings and slope treatments). Breakout from Areawide Environmental Projects - 60-9506-38	Y	Baltimore County	2017

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	MD 30 Business: North Woods Trail to CSX Railroad (Hampstead Community Safety & Enhancement)	64-1401-19	SHA	The purpose of this project is to provide improvements on MD 30 Business (Main Street in Hampstead) from North Woods Trail to CSX Railroad including reconstruction of the existing roadway with ADA compliant sidewalks on both sides of the street, curb and gutter, crosswalks, and driveway entrances. The project will also upgrade the drainage system, stormwater management facilities, landscaping, traffic signals, and utility relocations as necessary. Because of the low speeds and constrained urban environment, bicycles will be accommodated in mixed traffic in the travel lanes.	Y	Carroll County	2019
2012	2017 Bus and Rail Preventive Maintenance	40-1204-64	MTA - Transit	Provides preventative maintenance on the Bus, Light Rail and Metro systems to improve safety, reliability and passenger comfort.	Y	Regional	Ongoing
2012	Kirk Bus Facility Replacement - Phase 1 & 2	40-1203-65	MTA - Transit	Approximately 163 buses are stored, operated and maintained at the Kirk Division Bus Facility. Operations include preventive bus maintenance, inspections, heavy repairs, fueling, washing, administration, operator support facilities and dispatching. Phase I is the construction of a 100,000 square foot state-of-the-art, sustainable design, energy-efficient/green technology building that will house maintenance work to be performed in an enclosed environment, thereby enabling MTA to better control noise, exhaust fumes and visibility of the buses to the surrounding community. Phase II is the construction of a similar building to store buses overnight.	Y	Regional	2018
2012	I-695: Low-Cost Operational and Safety Improvements	63-1204-04	SHA	A traffic analysis using traffic simulation modeling software was conducted by SHA to identify ways to improve operational and overall safety conditions on I-695 from I-95 (Arbutus) to MD 43. Preliminary Engineering will be initiated to advance design of the conceptual operational and safety improvements, while considering the planned widening of I-695. Examples of projects includes I-695: MD 41 to MD 147; elements of which include auxiliary lanes and ramp modifications. Note: This does not go beyond 30% PE.	Y	Baltimore County	n/a

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	MD 22: Old Post Road Intersection Reconstruction	65-1202-12	SHA	This project will complete a number of improvements on MD 22 at Old Post Road, including: an additional through lane on eastbound MD 22, an additional through lane and an auxiliary lane on westbound MD 22, a second left-turn lane from eastbound MD 22 to northbound Old Post Road, additional right turn lanes from MD 22 to Old Post Road (both directions), and a wide outside lane to accommodate bicyclists and pedestrians on Old Post Road.	Y	Harford County	2016
2011	Baltimore and Potomac Tunnel	92-1101-99	Office of the Secretary	Preliminary Engineering and National Environmental Policy Act (NEPA) analysis for a new tunnel alignment to augment and replace the existing B&P Tunnel. The NEPA study will examine alternatives that will provide for safety and capacity improvements on the Northeast Corridor through Baltimore.	Y	Baltimore City	n/a
2010	Light Rail Mid-Life Overhaul	40-1001-64	MTA - Transit	Plan and design the facilitation of maintenance objectives for the Light Rail vehicle fleet: perform a 15-year inspection of the major and sub-assemblies of the original 35-vehicle fleet, identify and remedy all obsolete parts issues, overhaul the major and sub-assemblies according to manufacturer recommendations and facilitate any modifications deemed necessary by engineering or OEM for 15-year maintenance. First vehicles will be placed back in service starting in 2015, and last vehicle will be placed back in service in 2019.	Y	Regional	2019
2007	Morgan State University Transportation Research Program	60-0702-99	SHA	Transportation research, education and technology transfer activities involving university faculty, staff and students.	Y	Regional	Ongoing

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2006	I-695: I-95 to MD 122 (Southwest Beltway)	63-0602-41	SHA	The overall purpose of this project is to study the six-lane portions of I-695 for widening to an eight-lane freeway from I-95 to MD 122 (Security Boulevard). This umbrella project funded PE in 2014 for two projects that have since been broken out. Funding did not go beyond 30% PE. The I-695 Outer Loop widening project involves the multi-lane reconstruction of the I-695 Outer Loop from South of US 40 to MD 144 and has TIP ID #63-1601-41. The replacement of the bridge along the I-695 Inner Loop over Benson and Leeds/US1/Amtrak/Herbert Run and the realignment of the I-695 Inner Loop ramp from US 1 over Leeds Avenue, and US 1 from Knecht Avenue to Linden Avenue have TIP ID #63-1602-43.	Y	Baltimore County	2025
2001	Small Urban Transit Systems - Operating	40-0104-61	MTA - Transit	Operating assistance to small urban transit systems throughout the Baltimore region. Transit agencies eligible for funding include Carroll County.	Y	Regional	Ongoing
2000	Bus and Rail System Preservation and Improvement	40-0015-64	MTA - Transit	This is an ongoing project to rehabilitate Bus, Light Rail, and Metro vehicles, facilities and infrastructure, including operating division, MTA offices, park-and-ride lots, bus turnarounds, bridges, tunnels, track, and equipment.	Y	Regional	Ongoing
1999	Ridesharing - Baltimore Region	40-9901-01	MTA - Transit	The ridesharing project covers the activities of the ridesharing program in all jurisdictions in the Baltimore region, including the Guaranteed Ride Home (GRH) Program.	Y	Regional	Ongoing
1999	Areawide Transportation Alternatives Projects	60-9903-29	SHA	This is an ongoing program to expand travel choices and enhance the transportation experience by improving the cultural, historic, and environmental aspects of our transportation infrastructure. These projects may include but are not limited to pedestrian/bicycle facilities; rehabilitation of historic transportation facilities, including railroad facilities and canals; conversion and use of abandoned railway corridors; archeological activities related to transportation impacts; and mitigation of water pollution due to highway runoff. This program also includes Safe Routes to School projects.	Y	Regional	Ongoing

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
1995	Small Urban Transit Systems - Capital	40-9502-05	MTA - Transit	Capital assistance to small urban transit systems throughout the region to purchase vehicles, equipment and facilities. Baltimore region small urban transit systems includes Carroll County.	Y	Regional	Ongoing
1995	Areawide Congestion Management	60-9504-04	SHA	This is an ongoing program to provide traffic control, management, and monitoring on State highways. These improvements may include but are not limited to the employment of variable message signs, video for traffic management (CCTV), traffic management detectors, signal systemization and remote timing, permanent congestion monitoring systems employed by the CHART program, deployment of local jurisdiction intelligent transportation system (ITS) projects, and the development of park-and-ride facilities. This project also includes a program that replaces older drayage trucks serving the Port of Baltimore with newer trucks that meet or exceed 2007 EPA emissions certified engine standards.	Y	Regional	Ongoing
1995	Areawide Environmental Projects	60-9506-38	SHA	This is an ongoing program to provide environmental and aesthetic improvements on State highways. These are non-capacity improvements, which may include but are not limited to, projects dealing with noise abatement, wetlands, reforestation, landscape planting, scenic beautification, and pedestrian or bicycle facilities. This program also includes National Recreational Trails projects.	Y	Regional	Ongoing
1995	Areawide Resurfacing And Rehabilitation	60-9501-11	SHA	This is an ongoing program to provide periodic resurfacing and upgrading of auxiliary features on State highways. These are non-capacity improvements, which may include but are not limited to, milling, patching, sealing, and resurfacing of existing deteriorated state roadways. Other improvements such as ADA or guardrail may be included incidental to other resurfacing and rehabilitation improvements.	Y	Regional	Ongoing

Appendix C-2: List of Exempt MDOT Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
1995	Areawide Safety And Spot Improvements	60-9508-19	SHA	This is an ongoing program to provide localized improvements to address safety and/or operational issues on State highways. These are highway improvements which may include but are not limited to projects dealing with bypass lanes, acceleration and deceleration lanes, turn lanes, rail crossings, intersection realignment, geometric improvements, safety improvements including bridge, bicycle, and pedestrian safety improvements, pavement markers, ADA improvements, guardrails, and roundabouts. Other improvements such as slope repairs, drainage improvements, and joint sealing may be included incidental to other safety improvements.	Y	Regional	Ongoing
1995	Areawide Urban Reconstruction	60-9511-19	SHA	This is an ongoing program to provide roadway rehabilitation and streetscape improvements on State highways in towns and urban areas. These are non-capacity highway improvements which may include but are not limited to projects dealing with drainage, curb and gutter, pavement milling and resurfacing, sidewalks, streetscape, signs, and markings and lighting improvements.	Y	Regional	Ongoing
1993	Areawide Bridge Replacement And Rehabilitation	60-9310-13	SHA	This is an ongoing program to provide major upgrade and maintenance of structures on State highways. These are non-capacity improvements, which may include but are not limited to, structural replacements, deck rehabilitation, superstructure replacements, parapet reconstruction, cleaning and painting, and general maintenance on various state-owned bridges.	Y	Regional	Ongoing
1992	Rural Transit Systems - Operating Assistance	40-9204-61	MTA - Transit	Operating assistance to transit systems located in the Baltimore region. Systems include Baltimore County (Baltimore County Office on Aging), Carroll County (Carroll Transit).	Y	Regional	Ongoing

Appendix C-3: List of Non-Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2017	Curtis Avenue Corridor Improvements (Phase I and II)	12-1704-11	Local Project	<p>Project: Curtis Avenue Corridor Improvements is bounded by Pennington Avenue on the West, Curtis Avenue to the east, Patapsco Avenue to the North, and Aspen Street to the South. This project will include the conversion of Curtis Avenue at Pennington Avenue from one way to two-way. It also includes geometric improvements at the following intersections: Patapsco Avenue, Pennington Avenue, and Curtis Avenue in the north and Pennington Avenue, Aspen Street, and Curtis Avenue in the south.</p> <p>Justification: The project will accommodate transportation demand accelerated by residential and business development in the project area; address roadway deficiencies resulting from substandard intersection geometry; and improve operational issues. This project will also improve mobility between the project area and I-695 and I-895.</p> <p>Widening: No widening; Curtis Ave. extension to Aspen St. (geometric improvement)</p>	N, Not regionally significant	Baltimore City	2022
2016	Glenville Road Bridge #30	15-1601-13	Harford County	<p>Project: Replace the bridge that carries Glenville Road over Mill Brook.</p> <p>Justification: The existing bridge is a single lane, steel beam, concrete deck structure. The existing concrete deck, exterior beams, and wingwalls are severely deteriorated and there is evidence of scour under the western abutment.</p> <p>Widening: 1 to 2 lanes</p>	N	Harford County	2019

Appendix C-3: List of Non-Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	Rolling Road Widening - Phase I	13-1405-41	Baltimore County	<p>Project: This is a roadway widening project from Windsor Mill Road to Orchard Ave.</p> <p>Justification: This will provide more road capacity and reduce traffic congestion as well as provide safer pedestrian access. These changes are necessary due to inadequate lanes and sidewalks as well as high vehicular and pedestrian volumes.</p> <p>Widening: 2 to 4 lanes (5000 ft)</p>	N	Baltimore County	2018
2014	Bata Boulevard Access Road	15-1402-42	Harford County	<p>Project: The project will construct an access road from MD 543 directly to Bata Boulevard. The project has been planned since the redevelopment of the Bata land site. Right of way to construct the road has been reserved and the alignment is rough graded. This project will relieve existing and anticipated delays at the existing US 40/MD 543 intersection by eliminating the left turns from MD 543 to westbound US 40.</p> <p>Justification: This project is consistent with the Master Planning goal of maintaining a safe and adequate transportation system to serve existing and future populations. The anticipated increases in traffic volumes from BRAC will also create additional delays at the MD 543/US 40 interchange. This project will divert some traffic to another location thereby reducing delays and adding capacity to the intersection.</p> <p>Widening: 0 to 2 lanes (700 ft)</p>	N	Harford County	2020

Appendix C-3: List of Non-Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	Tollgate Road	15-1404-42	Harford County	<p>Project: The Tollgate Road corridor is being improved to meet current traffic demands. Once all current projects are completed, the only remaining concern would be the "missing" segment from Plumtree Road south to Bel Air South Parkway. This will be a developer funded project.</p> <p>Justification: This project meets the goals of the Transportation Element of the Master Plan by maintaining a safe and adequate transportation network to serve existing and future populations.</p> <p>Widening: 0 to 2 lanes (0.25 miles)</p>	N	Harford County	2018
2014	Dorsey Run Road: MD 175 to CSX Railroad Spur	16-1403-41	Howard County	<p>Project: This project is to study, design, and reconstruct Dorsey Run Road to four lanes from MD 175 south to the CSX railroad spur crossing; a distance of 6,000 linear feet.</p> <p>Justification: The existing road is substandard with varying width and limited capacity. Dorsey Run Road is classified in the Plan Howard 2030 as a major collector and four lanes are needed to accommodate the increasing volumes of traffic.</p> <p>Widening: 2 to 4 lanes (1.1 miles)</p>	N	Howard County	2021
2014	Guilford Road: US 1 to Dorsey Run Road	16-1405-41	Howard County	<p>Project: This project is to study, design, and reconstruct Guilford Road to three lanes from US 1 to Old Dorsey Run Road; a distance of 5,800 linear feet.</p> <p>Justification: The existing road is sub-standard with varying width and limited capacity. Guilford Road is classified as a major collector in the Plan Howard 2030 and three lanes are needed to accommodate the increasing volume of commercial traffic.</p> <p>Widening: 2 to 4 lanes (1 mile)</p>	N	Howard County	2020

Appendix C-3: List of Non-Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	MD 175 at Oakland Mills Rd Interchange	16-1407-46	Howard County	<p>Project: Grade-separated bridge with ramps at MD 175/Oakland Mills Road extended. Will provide access to and from Howard County Blandair Park.</p> <p>Justification: MD 175, an 8-lane Principal Arterial from I-95 to US 29, has significant regional peak hour traffic. The proposed interchange with Oakland Mills Road will ensure future capacity, level of service, and acceptable operating conditions, as well as improved access to Blandair park.</p> <p>Widening: N/A; Full Interchange</p>	N	Howard County	2020
2014	Snowden River Parkway: Broken Land Parkway to Oakland Mills Road	16-1410-41	Howard County	<p>Project: A project to design and construct a widening of Snowden River Parkway (intermediate arterial) by adding a third lane and sidewalks from Broken Land Parkway to Oakland Mills Road.</p> <p>Justification: This project will develop the third lane on each side between these two intersections, will increase the capacity of the roadway and provide an improved level of service. Project requested by the Traffic Division.</p> <p>Widening: 4 to 6 lanes (6,300 ft)</p>	N	Howard County	2020
2012	Gorsuch Mill Road Bridge No. B-0071 over Blackrock Run	13-1203-13	Baltimore County	<p>Project: Replacement of Bridge No. B-71 on Gorsuch Mill Road over Blackrock Run.</p> <p>Justification: Existing structure is a deteriorated prefabricated (non-historic) truss bridge with a bridge sufficiency rating of 28.3%. Both the deck and superstructure are in poor condition.</p> <p>Widening: 1 to 2 lanes</p>	N	Baltimore County	2019

Appendix C-3: List of Non-Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2011	Piney Grove Road Bridge No. B-0140 over CSX railroad	13-1107-13	Baltimore County	<p>Project: Existing timber bridge, 44' long, 16' wide carrying a single lane of traffic over CSX railroad tracks.</p> <p>Justification: Bridge is classified as structurally deficient and currently posted for 8 tons (SUV) and 13 tons (CVW). It is in need of total replacement. The Bridge is currently owned and maintained by CSX but Baltimore County inspects the bridge. Before beginning preliminary engineering the bridge ownership will be transferred from CSX to Baltimore County.</p> <p>Widening: 1 to 2 lanes</p>	N	Baltimore County	2023
2011	Chestnut Hill Bridge #40	15-1101-13	Harford County	<p>Project: This project will replace the existing Chestnut Hill Road Bridge.</p> <p>Justification: The current structure is a single-lane bridge with deteriorating superstructure and an inadequate waterway opening.</p> <p>Widening: 1 to 2 lanes</p>	N	Harford County	2018

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2017	Hanover Street Bridge Deck Repair over Middle Branch	12-1705-13	Local Project	This work will include repair of the Hanover Street draw bridge deck over Middle Branch in FY17. It will also include but will not be limited to rehabilitating or replacing the existing deteriorated bridge in FY19-20. Hanover Street Bridge is a thirty-seven (37) span bridge built in 1916 and rehabilitated in 1970 and 1992. The bridge carries five (5) lanes of traffic, two (2) in each direction with an alternating direction center lane. (5 to 5 lanes)	Y	Baltimore City	2021
2017	MLK Blvd. and Howard St. Intersection Improvements	12-1706-11	Local Project	Martin Luther King Jr. Blvd. and Howard Street Intersection improvements will include roadway pavement rehabilitation and realignment, pedestrian ramp modifications, storm water drainage, stormwater management, signals, signing, roadway markings, street lighting and landscaping within the project limits. This project was previously included in the TIP as Citywide Earmarks and Enhancements (12-1212-99).	Y	Baltimore City	2018
2017	Replacement of the Dartmouth Retaining Wall	12-1703-19	Local Project	This project replaces the deteriorated retaining wall along Dartmouth Road that supports the property and residences along Dartmouth Glen Way.	Y	Baltimore City	2019
2017	Transportation Management Center Upgrade	12-1701-04	Local Project	System integration and facility equipment upgrade citywide. The purpose of this project is to upgrade the central computer system or Advance Traffic Management System (ATMS) which controls and communicates with traffic signals in the field. The system includes software and computer hardware (servers and switches). Replacement with a new system requires a complete upgrade of hardware and software, installation of communication equipment for fiber optics, and a copper cable network and camera control system to complete the functions of the ATMS.	Y	Baltimore City	2021

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2017	Rossville Blvd. Bridge No. B-0132 over Amtrak & Orems Rd.	13-1701-13	Local Project	Rehabilitation of Bridge No. B-0132 on Rossville Boulevard over Amtrak Railroad & Orems Road	Y	Baltimore County	2024
2016	McKendree Road Culvert over Lyons Creek	11-1601-19	Local Project	This project is to remove and replace the culvert on McKendree Road over Lyons Creek to correct the structurally deficient condition of the existing multicell culvert.	Y	Anne Arundel County	2021
2016	Polling House Road Bridge over Rock Branch	11-1602-13	Local Project	This project will replace the existing bridge along Polling House Road over Rock Branch to correct the deteriorated structure and obsolete deck geometry. (2 to 2 lanes)	Y	Anne Arundel County	2021
2016	Citywide Road Reconstruction	12-1607-12	Local Project	Reconstruction of various roadways on the Federal Aid system- Sectors 1-4 of 4. Work is to generally include full depth reconstruction of roadways. It may also include curb and sidewalk reconstruction and other isolated roadway appurtenance modifications.	Y	Baltimore City	Ongoing
2016	I-83 Concrete Deck Mill and Resurface	12-1604-13	Local Project	This work will include but will not be limited to rehabilitating the deteriorating concrete decks of the bridges with new wearing surfaces that meet current standards. The limits of this project are between Exit 1 and Exit 10.	Y	Baltimore City	2020
2016	Moravia Road Ramp Bridge over Pulaski Highway	12-1605-13	Local Project	This work will include but will not be limited to rehabilitating the existing deteriorated bridge with new bridge components that meet current standards.	Y	Baltimore City	2022

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TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2016	Orleans Street Bridge over I-83 and City Streets	12-1601-13	Local Project	This work will include but will not be limited to rehabilitating the deteriorated bridge with structural improvements, cleaning and painting of the steel elements, replacing and reconfiguring the storm drain system and other repairs in order to correct the deteriorated components of the bridge.	Y	Baltimore City	2020
2016	Radecke Avenue over Moores Run	12-1603-13	Local Project	This work will include but will not be limited to replacing the deteriorated bridge with a new structure that will meet current standards.	Y	Baltimore City	2021
2016	Remington Avenue Bridge over Stony Run	12-1602-13	Local Project	This work will include but will not be limited to replacing the deteriorating bridge with a new structure that will meet current standards.	Y	Baltimore City	2021
2016	SE Baltimore Freight Corridor: Broening Highway Complete Streets	12-1611-09	Local Project	Complete Streets improvements will be implemented in the residential portion of Broening Highway to further dissuade trucks from traveling through neighborhoods, while creating a more walkable and bikeable environment that improves residents' quality of life. The pedestrian and sidewalk facilities enhancements will run between Holabird Avenue and Boston Street. Improvements may include sidewalk widening, crosswalk and ADA enhancements, a median and bumpouts with stormwater management and/or bio-retention elements, and dedicated bicycle facilities.	Y	Baltimore City	2019

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TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2016	SE Baltimore Freight Corridor: Colgate Creek Bridge Replacement	12-1609-13	Local Project	This project replaces a structurally deficient, functionally obsolete bridge on Broening Highway over Colgate Creek, enabling trucks to reroute away from residential communities and addressing major impacts to residents' quality of life.	Y	Baltimore City	2020
2016	SE Baltimore Freight Corridor: Keith and Holabird Avenue Improvements	12-1610-11	Local Project	This project will provide safer, more efficient access between the Port of Baltimore and the Interstate System for freight movement without traveling through adjacent residential neighborhoods by improving road conditions on Keith Avenue and Holabird Avenue. Examples of improvements include joint repairs, resurfacing, and geometric improvements. This project will allow for freight vehicles to utilize Keith Avenue or Holabird Avenue to directly access I-95 and I-895 without going through residential communities.	Y	Baltimore City	2019
2016	Babylon Road Bridge over Silver Run	14-1601-13	Local Project	Replacement of existing bridge to provide efficient access for local traffic and emergency service vehicles. (2 to 2 lanes)	Y	Carroll County	2019
2016	Gaither Road Bridge over South Branch Patapsco River	14-1602-13	Local Project	Replacement of existing bridge to provide efficient access for local traffic and emergency service vehicles. (2 to 2 lanes)	Y	Carroll County	2021
2016	McKinstry's Mill Road Bridge over Sams Creek	14-1603-13	Local Project	Replacement of existing bridge to provide efficient access for local traffic and emergency service vehicles. (2 to 2 lanes)	Y	Carroll County	2020

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2015	Stafford Road Bridge #24 over Deer Creek	15-1501-13	Local Project	This is a bridge rehabilitation project to consist of repair and/or replacement of the bridge deck and repairs to the beam seats, abutments, wingwalls, piers, backwalls, rocker bearings, and railing posts. (2 to 2 lanes)	Y	Harford County	2017
2014	Magothy Bridge Road Bridge over Magothy River	11-1402-13	Local Project	Replace bridge deck and add shoulders to the bridge over the Magothy River. (2 to 2 lanes)	Y	Anne Arundel County	2018
2014	O'Connor Road Bridge over Deep Run	11-1403-13	Local Project	Replace bridge over Deep Run at O'Connor Road. (2 to 2 lanes)	Y	Anne Arundel County	2020
2014	Belair Road Complete Streets	12-1404-11	Local Project	Design and construction for street, sidewalk, bike improvements and greening at key nodes on Belair Road, including Frankford Ave., Erdman Ave., and Fleetwood. Project is a major implementation item from the Urban Land Institute Belair Road report and BCDOT traffic study. Phase I includes intersection improvements at Belair Rd and Frankford Ave node.	Y	Baltimore City	2022
2014	Citywide System Preservation	12-1414-11	Local Project	Citywide system preservation includes resurfacing, rehabilitation and maintenance, streetscapes, signals and intersection improvements, as well as ADA ramps and sidewalk improvements. Current projects include, but are not limited to: - Russell Street concrete pavement rehabilitation from Russell Street viaduct to Waterview Avenue - Moravia Road streetscape from Belair Road to Sinclair Lane - Patapsco Avenue rehabilitation from Gable Avenue to Annapolis Road.	Y	Baltimore City	Ongoing

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	Greenmount Avenue Reconstruction: 43rd Street to 29th Street	12-1408-12	Local Project	Reconstruction of Greenmount Avenue between 43rd and 29th street, including milling/repaving, lighting, landscaping, new sidewalks and traffic calming.	Y	Baltimore City	2019
2014	Hanover Street Bridge Multimodal Corridor	12-1419-13	Local Project	A Multimodal Corridor Plan will establish the framework for Baltimore City's investment in the Hanover Street Bridge Corridor for transportation, education, recreation, regional competitiveness and economic development. The study will identify feasible methods of rehabilitating or replacing the Hanover Street Bridge, improve multimodal corridor accessibility and freight access as well as highlight ways to enhance access to economic opportunities and recreational amenities, quality of life, and safety throughout the corridor.	Y	Baltimore City	n/a
2014	Harford Road Bridge Over Herring Run	12-1402-13	Local Project	The bridge has deteriorated beyond repair. A total reconstruction of the bridge is needed. (4 to 4 lanes)	Y	Baltimore City	2020
2014	Wilkins Avenue Bridge Over Gwynns Falls	12-1403-13	Local Project	This project involves replacement of the bridge, which has deteriorated beyond repair. (4 to 4 lanes)	Y	Baltimore City	2019

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2014	Countywide Bridge Maintenance, Repair, and Replacement	14-1402-13	Local Project	This project includes performing maintenance, repair, and replacement of bridges. Current work includes but is not limited to: White Rock Road Bridge over Piney Run: Replace the existing 2-cell culvert with a new 3-cell concrete box culvert. Bixlers Church Road Bridge over Big Pipe Creek: Replace the existing 2-cell culvert with a new 2-cell concrete box culvert. Shepherds Mill Road Bridge over Little Pipe Creek: Replace the existing 3-span bridge with a new structure, including piers and abutments. (2 to 2 lanes)	Y	Carroll County	Ongoing
2014	Robinson Mill Road Bridge #154 over Broad Creek	15-1401-13	Local Project	This project is to replace the entire bridge that carries Robinson Mill Road over Broad Creek. The two-lane approach road on both ends of the bridge includes horizontal curves that restrict sight distance across the bridge. (2 to 2 lanes)	Y	Harford County	2016
2012	Harwood Road Bridge over Stocketts Run	11-1208-13	Local Project	This project will replace the existing bridge over Stocketts Run. (2 to 2 lanes)	Y	Anne Arundel County	2019
2012	Baltimore City Locked Gate Interstate Access Point Approval (IAPA)	12-1201-99	Local Project	This project would modify the North Charles Street on-ramp to I-83 to allow access to Amtrak property west of Penn Station. This would be a controlled access point with a locked gate. This project is funded by the University of Baltimore.	Y	Baltimore City	2018

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	Citywide Bicycle and Pedestrian Improvements	12-1217-25	Local Project	The Citywide Bicycle and Pedestrian Group includes but is not limited to: - Planning, design, and construction of Baltimore City Bicycle Routes and trails system. - A city-wide bicycle network which will encourage alternative modes of transportation, reduce emissions and automobile trips.	Y	Baltimore City	Ongoing
2012	Citywide Guide Sign Replacement	12-1222-19	Local Project	Guide sign replacement including but not limited to signs on I-83, MD 295 and other major arterials.	Y	Baltimore City	Ongoing
2012	Citywide Traffic Signals, Intelligent Transportation System and Safety Improvements	12-1218-07	Local Project	Intelligent Transportation System (ITS) related work includes but is not limited to: traffic signal system integration, traffic surveillance camera expansion, traffic signal replacement and upgrade, fiber optic connections, variable message signs, and traffic detector upgrade, including geometric improvement of intersections. Projects included in this TIP ID are: CCTV and signal rewiring citywide, installation of fiber optic and copper communications citywide, ITS deployment and upgrades citywide, geometric improvements at multiple intersections, and North Avenue and Pennsylvania Avenue intersection improvements.	Y	Baltimore City	Ongoing
2012	Midtown Streetscape/Traffic Improvements	12-1222-11	Local Project	Streetscape on Mount Royal Avenue from North Avenue to Guilford Avenue, including signal upgrades and other safety improvements, ADA compliant curb ramps and on-street bike lanes. (4 to 4 lanes)	Y	Baltimore City	2019

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	Pavement Management System	12-1206-99	Local Project	This project will include but will not be limited to assessing the pavement condition of every publicly maintained street in Baltimore City so that DOT can understand the health of our transportation network and know how best to utilize their current budget for pavement maintenance projects. A final report will be used for CIP repaving projects.	Y	Baltimore City	2018
2012	Perring Parkway Ramp and Hillen Road Bridge	12-1215-13	Local Project	Replace Perring Parkway Ramp over Herring Run and Hillen Road Bridge over Herring Run. (4 to 4 lanes)	Y	Baltimore City	2021
2012	Sisson Street Bridge over CSX Railroad	12-1216-13	Local Project	The 133-foot long bridge was originally built in 1914 and was rehabilitated in 1950, but severe deterioration is now evident throughout and the structure must be replaced. (2 to 2 lanes)	Y	Baltimore City	2019
2012	Dogwood Road Bridge No. B-0347 over Dogwood Run	13-1201-13	Local Project	Removal and replacement of Bridge No. B-347 on Dogwood Road over Dogwood Run. (2 to 2 lanes)	Y	Baltimore County	2018
2012	Forest Park Avenue N. Bridge No. B-0097 over Dead Run and Dogwood Road	13-1210-13	Local Project	Deck replacement and rehabilitation of Bridge No. B-97 on Ingleside Avenue over Dead Run and Dogwood Road. (2 to 2 lanes)	Y	Baltimore County	2025
2012	Golden Ring Road Bridge No. B-0110 over Stemmers Run	13-1208-13	Local Project	Replacement of Bridge No. B-110 on Golden Ring Road over Stemmers Run. (2 to 2 lanes)	Y	Baltimore County	2023

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2012	Old Court Road Bridge No. B-0237 over Bens Run	13-1204-13	Local Project	Superstructure replacement for Bridge No. B-237 on Old Court Road over Bens Run. (4 to 4 lanes)	Y	Baltimore County	2018
2012	Old Ingleside Avenue Bridge No. B-0096 over Dead Run	13-1202-13	Local Project	Replacement of Bridge No. B-96 on Old Ingleside Avenue over Dead Run. Existing bridge is a historic arch structure. Preliminary design will include evaluation of rehabilitation versus replacement study. (2 to 2 lanes)	Y	Baltimore County	2022
2012	Rolling Road Bridge No. B-0358 over Branch of Dead Run	13-1209-13	Local Project	Replacement of Bridge No. B-358 on Rolling Road over Branch of Dead Run. (4 to 4 lanes)	Y	Baltimore County	2021
2012	Sparks Road Bridge No. B-0018 over Gunpowder Falls	13-1206-13	Local Project	Cleaning and painting of Bridge No. B-18 on Sparks Road over Gunpowder Falls. The existing bridge is a historic truss structure. (2 to 2 lanes)	Y	Baltimore County	2019
2011	Furnace Avenue Bridge over Deep Run	11-1103-13	Local Project	Reconstruct existing bridge to correct existing deficiencies, substandard approach road and bridge deck geometry. (2 to 2 lanes)	Y	Anne Arundel County	2018
2011	Gores Mill Road Bridges No. B-0136, 0137, 0138 and 0346	13-1109-13	Local Project	Replacement of three bridges (136, 138, and 346) in close proximity to one another on Gores Mill Road. All three bridges provide inadequate roadway width. The project also includes the widening of Bridge 137 from 19'-1" to 22' for traffic safety purposes given the close proximity of this bridge to Bridge 138. Bridge 137 is otherwise in good condition. (2 to 2 lanes)	Y	Baltimore County	2018

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2011	Lansdowne Boulevard Bridge No. B-0113 over CSX Railroad	13-1105-13	Local Project	Steel girder bridge carrying two lanes of traffic each way and two sidewalks on Lansdowne Boulevard over CSX railroad tracks. (4 to 4 lanes)	Y	Baltimore County	2024
2011	Peninsula Expressway Bridge No. B-0119 over CSX Railroad	13-1108-13	Local Project	Replacement of Dual Bridge No. 119 on Peninsula Expressway over CSX railroad tracks. (4 to 4 lanes)	Y	Baltimore County	2022
2011	Stone Chapel Road Bridge over Little Pipe Creek	14-1103-13	Local Project	Rehabilitation of existing bridge to provide efficient access for local truck traffic to MD 31. (2 to 2 lanes)	Y	Carroll County	2019
2011	Phillips Mill Road Bridge #70 over East Branch Tributary	15-1102-13	Local Project	This project is to replace the bridge that carries Phillips Mill Road over a tributary to East Branch. (2 to 2 lanes)	Y	Harford County	2019
2010	Gunpowder Road Bridge No. B-0409	13-1005-13	Local Project	Replacement of the existing bridge. (2 to 2 lanes)	Y	Baltimore County	2021
2010	Hammonds Ferry Road Bridge No. B-0100 over CSX Railroad	13-1012-13	Local Project	Deck replacement and rehabilitation of Bridge No. B-100 on Hammonds Ferry Road over CSX railroad. (4 to 4 lanes)	Y	Baltimore County	2019

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2010	Abingdon Road Bridge #169 over CSX Railroad	15-1001-13	Local Project	Replace the bridge that carries Abingdon Road over the CSX Railroad tracks. (2 to 2 lanes)	Y	Harford County	2018
2008	Mohrs Lane Bridge No. B-0143 over CSX Railroad	13-0803-13	Local Project	Replacement of existing bridge to include sidewalks and wider lanes as well as the approaches to accommodate future Campbell Blvd. (2 to 2 lanes)	Y	Baltimore County	2019
2007	Carrs Mill Road Bridge #216 over Bear Cabin Branch	15-0701-13	Local Project	This project is to replace the triple-cell concrete pipe bridge that carries Carrs Mill Road over Bear Cabin Branch. The concrete pipes and the slate headwalls are severely deteriorated and need to be replaced. (2 to 2 lanes)	Y	Harford County	2017
2004	Gwynnbrook Avenue Bridge No. B-0202 over Gwynns Falls	13-0411-13	Local Project	Complete replacement of Bridge No. B-202 on Gwynnbrook Avenue over Gwynns Falls. (2 to 2 lanes)	Y	Baltimore County	2018
2004	Pleasantville Road Bridge # 67	15-0406-13	Local Project	This project is to replace the bridge that carries Pleasantville Road over Winters Run.	Y	Harford County	2020
2004	Bridge Repairs and Deck Replacement	16-0436-13	Local Project	This project is to repair/replace bridge decks at the following locations: River Road bridge over Rockburn Branch, Henryton Road bridge over a tributary to the Patapsco River, Pindell School Road bridge over Hammond Branch, Daisy Road bridges over Cattail Creek and Little Cattail Creek, Pfefferkorn Road bridge over Middle Patuxent River, Carroll Mill Road bridge over Benson Branch, and emergency structure reconstruction.	Y	Howard County	Ongoing

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
2002	Citywide Road Resurfacing - Federal Aid Program	12-0207-11	Local Project	Resurfacing or rehabilitation of various roadways on the Federal Aid system citywide. Work is to generally include the removal and replacement of existing asphalt surfaces. It may also include roadway base repairs, minor curb and sidewalk repairs, and other isolated roadway appurtenance modifications.	Y	Baltimore City	Ongoing
2000	Transportation Career Development Innovation Program (BCDOT)	12-0002-99	Local Project	The purpose of this project is to provide surface transportation workforce development, training, and education for students and youth, in order to increase transportation career awareness and preparation, as well as professional development and training. This project replaces a previous program known as Baltimore City Urban Youth Corps Program, which is no longer active.	Y	Baltimore City	2019
2000	Dogwood Road Bridge No. B-0072 Over Dogwood Run	13-0001-13	Local Project	Replacement of existing bridge. (2 to 2 lanes)	Y	Baltimore County	2018
1999	Hawkins Point Bridge over CSX Railroad	12-9903-13	Local Project	The bridge carrying Hawkins Point Road over CSX will be replaced. The roadway between Ross Avenue and Chemical Road will be completely replaced. This replaced includes full depth concrete pavement replacement as well as Water, conduit, BGE, and Verizon utilities. Sidewalks, which are not currently present, will also be added to both sides of Hawkins Point Road. The project will also include the addition of a right turn lane for the US Coast Guard Yard at Ross Avenue. (4 to 4 lanes, 0.53 miles)	Y	Baltimore City	2020
1994	Bridge Inspection Program	14-9401-14	Local Project	This project includes a field inspection of 135 County-owned and maintained structures and completion and submittal of inspection reports to county and state agencies for each structure.	Y	Carroll County	Ongoing

Appendix C-4: List of Exempt Local Projects from the FY 2017-2020 TIP

TIP Year	Project Title	TIP ID #	Agency	Description	Exempt? (Y/N)	Jurisdiction	Year of Operation
1994	Bridge Inspection Program	15-9411-14	Local Project	This federal program provides funding for the inspection of bridges in Harford County.	Y	Harford County	Ongoing
1989	Bridge Inspection Program	13-8901-14	Local Project	Countywide inspection of all bridges as federally mandated. Includes review of countywide bridge inspection reports and bridge replacement and/or rehabilitation federal aid capital projects.	Y	Baltimore County	Ongoing

Appendix C-5: Conformity Status of *Maximize2040* Amendment

The Maryland State Highway Administration (SHA) is proposing to advance the implementation date for a segment of the MD 32 project currently in the 2015 long-range transportation plan (known as *Maximize2040*), from 2030 to 2021.

The project limits for the entire MD 32 project are from MD 108 to I-70. The proposed amendment would advance the roadway widening of a 6.6-mile segment, from Linden Church Road to I-70.

The table below shows details about this segment of the MD 32 project.

Project	MD 32: MD 108 to I-70
Project Sponsor	State Highway Administration
Jurisdiction	Howard County
Project Limits	Linden Church Road to I-70 (6.6 miles)
Description	Widen MD 32 in both directions, from two to four lanes, to provide an access-controlled, divided highway. Final scope details to be refined as the design-build process progresses.
Expected Year of Operation	2021
Justification	This project will reduce congestion, enhance connectivity for daily life, and improve operations and safety on this segment of MD 32.

Appendix D: Round 8A Cooperative Forecasts

**Local Jurisdiction Submissions: Round 8A
Cooperative Forecasts – Population, Household and Employment Controls**

Table 1: Round 8A Population

Jurisdiction	2010	2015	2020	2025	2030	2035	2040
Anne Arundel County	537,656	559,619	580,007	593,595	606,689	618,177	628,048
Baltimore City	620,961	636,722	647,282	656,314	667,210	676,726	680,262
Baltimore County	805,029	823,121	832,393	846,771	858,183	869,523	880,726
Carroll County	167,134	170,549	175,900	179,437	183,258	186,180	189,574
Harford County	244,826	251,991	258,668	265,098	273,127	281,029	291,089
Howard County	287,085	309,043	332,273	346,517	357,094	363,501	366,352
Baltimore Region	2,662,691	2,751,045	2,826,523	2,887,732	2,945,561	2,995,136	3,036,051

Note: Anne Arundel County data includes the City of Annapolis

Table 2: Round 8A Households

Jurisdiction	2010	2015	2020	2025	2030	2035	2040
Anne Arundel County	199,378	206,441	213,504	220,565	227,626	234,647	241,542
Baltimore City	249,903	256,904	261,374	265,100	269,632	273,496	274,976
Baltimore County	316,715	321,983	325,447	331,312	335,749	340,162	344,539
Carroll County	62,406	64,142	66,219	68,025	69,692	71,305	72,853
Harford County	90,218	94,095	97,892	101,689	105,488	109,298	113,090
Howard County	104,749	112,173	123,899	130,948	135,517	138,513	139,497
Baltimore Region	1,023,369	1,055,738	1,088,335	1,117,639	1,143,704	1,167,421	1,186,497

Note: Anne Arundel County data includes the City of Annapolis

Table 3: Round 8A Total Employment

Jurisdiction	2010	2015	2020	2025	2030	2035	2040
Anne Arundel County	323,148	342,011	361,688	376,085	391,312	404,986	424,061
Baltimore City	381,772	388,651	402,534	415,971	428,751	441,346	454,167
Baltimore County	446,250	465,801	484,533	492,436	499,296	504,820	510,565
Carroll County	70,889	73,063	76,107	78,421	80,888	82,996	85,351
Harford County	104,670	115,562	126,040	135,775	146,269	157,191	167,261
Howard County	181,381	196,381	211,381	226,381	241,381	251,710	260,309
Baltimore Region	1,508,110	1,581,469	1,662,283	1,725,069	1,787,897	1,843,049	1,901,714

Note: Anne Arundel County data includes the City of Annapolis

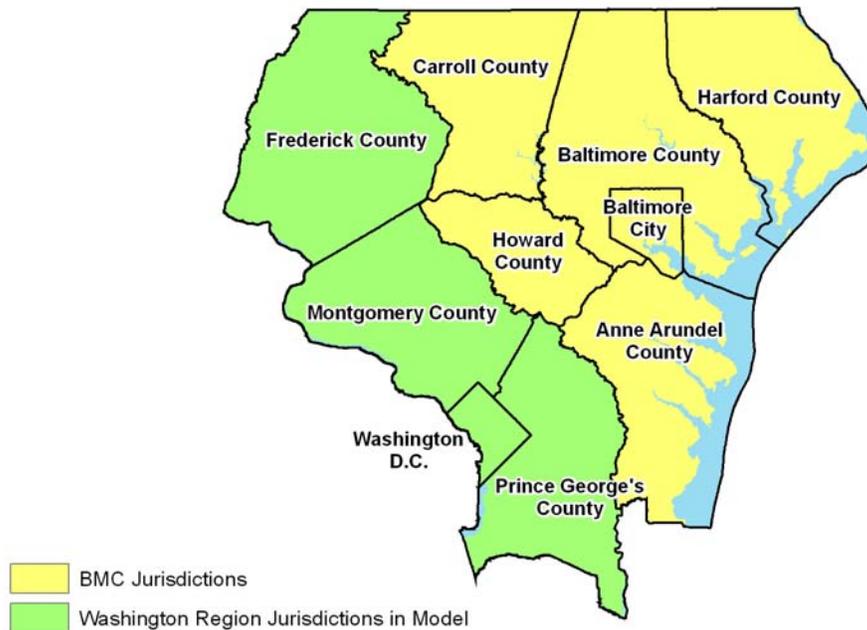
*Appendix E: Excerpt: Introduction,
Baltimore Region Travel Demand Model Version
4.4 – Model Validation for 2010 Base Year*

1 Introduction

1.1 Model Overview

The Baltimore Metropolitan Council (BMC) had been charged by the Baltimore Regional Transportation Board (BRTB), the designated Metropolitan Planning Organization for the Baltimore region, to develop a computerized transportation model which can simulate person transportation demand and vehicle flows on the regional highway and transit system. The region consists of Baltimore City and the counties of Anne Arundel, Baltimore, Carroll, Harford, and Howard, all in the State of Maryland. Also included in the model, although in less detail, are the Maryland counties of Prince George's, Montgomery, and Frederick as well as the District of Columbia. See Exhibit I-1 for a map of the Baltimore region and the model area.

Exhibit I-1 The Baltimore Region and Model Region



This report documents the results of the completed model revalidation procedure. The updated model validation year is 2010 and is based on Version 4.4 Baltimore Region Travel Demand Model¹ with the validation year 2000.

The year 2010 was chosen as the validation base year because:

- Household Survey Data were available for year 2007-2008
- Transit on-board survey were available for year: 2008
- Traffic Counts were available for 2009-2011
- Decennial Census and American Community Survey data were available for 2010

The Baltimore region travel model is a “four step” trip-based model that utilizes demographic and travel data aggregated to the traffic analysis zone level. The model is applied using the Cube Voyager software package, specifically version 08/05/2014 [6.1.1] of Cube Voyager. The entire model is controlled by one setup file (a.k.a. “driver” or “script” file). A specific file naming convention and directory structure have been established to facilitate applying the model to different scenarios, and for creating new scenarios. A user interface has been created in Cube to assist the end user in starting and running the model.

1.2 Trip Purposes

To represent different travel characteristics throughout the model, trips are divided into various purposes. Table I-1 illustrates the trip purposes defined in the BMC model.

¹ *Travel Demand Model Calibration Report, Prepared for Maryland Transit Administration (MTA), Baltimore, MD, Prepared by William G. Allen, August 2006*

**Table I-1
Trip Purposes**

Purpose	Abbreviation	Description
Home-based Work	HBW	Direct trips between home and work locations
Home-based School	SCH	Direct trips for students between home and school (grades K-12)
Home-based Shop	HBS	Direct trips between home and shopping locations
Home-based Other	HBO	All other trips having one end at the home location
Journey to Work	JTW	Trips with one end at the tripmaker's work location which is part of a chain of trips that start or end at a location other than the work location
Journey at Work	JAW	Trips with one end at the tripmaker's work location which is part of a chain of trips that start or end at the same work location
Other-based Other	OBO	Trips of a personal nature within the region not covered by the above categories
Commercial Vehicles	CV	Trips by passenger car, van, or pickup trip that are of a commercial or service nature, <i>e.g.</i> , plumbers, police cars, taxicabs, repair services
Medium Trucks	MT	Trips by vehicles with two axles and six tires
Heavy Trucks	HT	Trips by vehicles with more than two axles and six tires
Internal-External Work	IXW	HBW or JTW trips that originate within the model region and terminate outside it
External- Internal Work	XIW	HBW or JTW trips that originate outside the model region and terminate within it
Internal-External Non-Work	IXN	SCH, HBS, HBO, JAW, or OBO trips that originate within the model region and terminate outside it
External- Internal Non-Work	XIN	SCH, HBS, HBO, JAW, or OBO trips that originate outside the model region and terminate within it
Internal-External Commercial Vehicles	IXC	CV trips that originate within the model region and terminate outside it

Purpose	Abbreviation	Description
External-Internal Commercial Vehicles	XIC	CV trips that originate outside the model region and terminate within it
Internal-External Medium Trucks	IXM	MT trips that originate within the model region and terminate outside it
External-Internal Medium Trucks	XIM	MT trips that originate outside the model region and terminate within it
Internal-External Heavy Trucks	IXH	HT trips that originate within the model region and terminate outside it
External-Internal Heavy Trucks	XIH	HT trips that originate outside the model region and terminate within it
Through Trips Passenger Cars	XXPC	Passenger car trips that simply pass through the region without stopping
Through Trips Commercial Vehicles	XXCV	CV trips that simply pass through the region without stopping
Through Trips Medium Trucks	XXMT	MT trips that simply pass through the region without stopping
Through Trips Heavy Trucks	XXHT	HT trips that simply pass through the region without stopping

Trip purposes are generated on the basis of Productions and Attractions (P&A). For home-based purposes, the home end is always the production end of the trip, while the attraction end is always the non-home location. Thus, for a round trip directly from home to work and then directly back home at the end of the work day, there are two trip productions at the home location and two trip attractions at the workplace, despite the different direction of travel between the two trips. These trip productions and attractions are “balanced” and converted to origins and destinations (O&D) only before the trips are assigned to the highway network in the Trip Assignment step. Transit trips remain in P&A format for transit assignment.

JTW, JAW, and OBO trips are often called Non-Home-Based (NHB) trips. While these trips are produced at the home end, that zone is often not where the trip starts

and stops. Trip attractions are scaled to match the productions, but then productions are set equal to the scaled attractions as these trips become O&D.

Persons who do not live in the model region but come to the region for work or other activities can make NHB trips within the region which are not reflected in the Household Travel Survey (HTS). The model has its own procedure for calculating these non-resident NHB trips.

1.3 Area Type

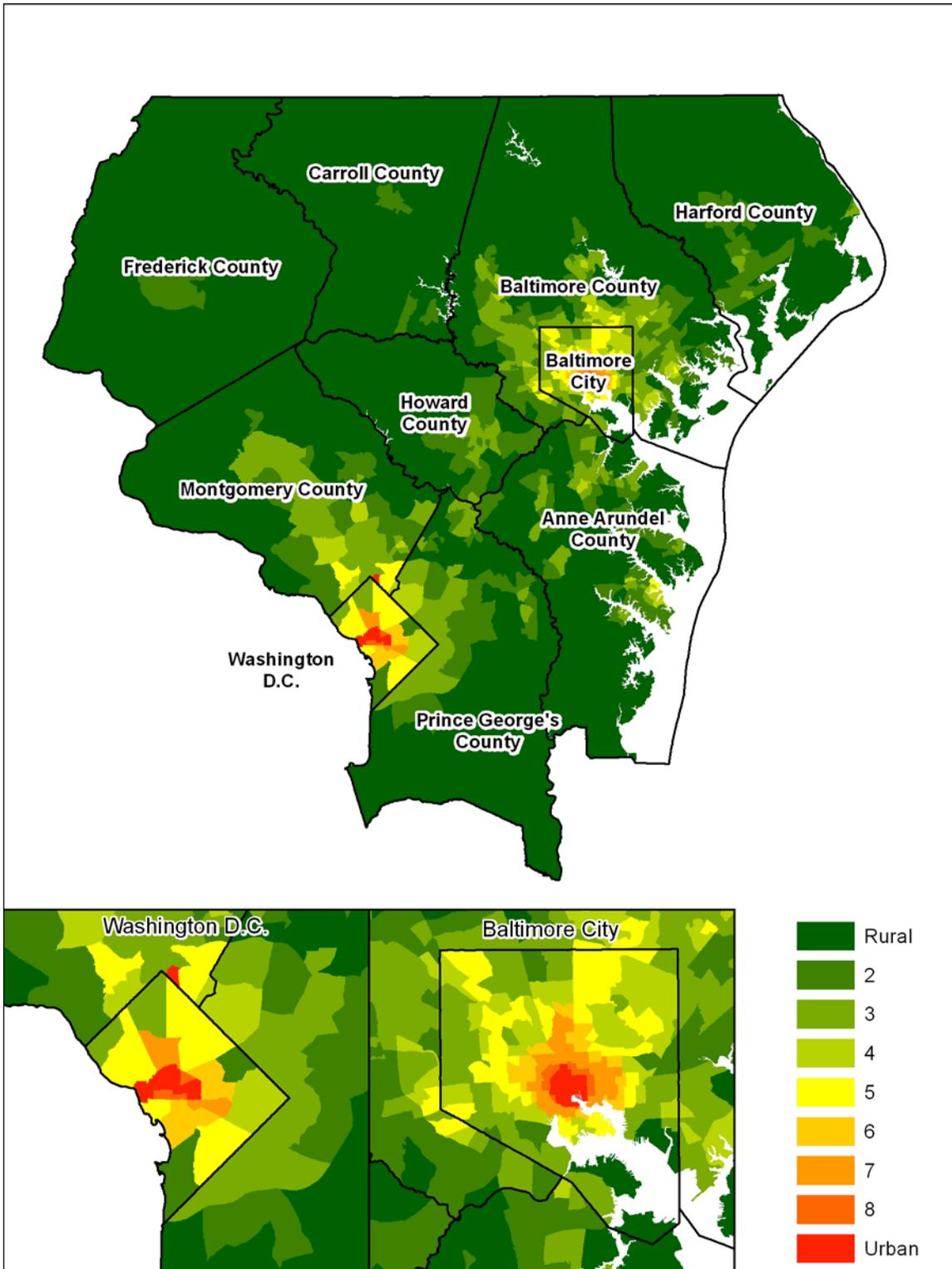
The area type model utilizes employment and household densities to develop a single density factor for each zone. The calculated area type indices are utilized to estimate non-motorized trips, to estimate Mode Choice and to estimate speed-capacity for highway network. To capture the effect of neighboring areas, for each zone, the number of households and employment for that zone plus zones with centroids within a mile of the centroid of the zone in question are aggregated. These totals are then divided by the corresponding number of acres to develop household and employment density. The lookup table shown in Table I-2 is used to develop an overall area type value, ranging from 1 as the most rural to 9 as the most urban.

**Table I-2
Area Type Lookup Table**

Empl/ Acre	Households/Acre									
	< 0.5	0.5- 1.0	1.0- 1.5	1.5- 2.25	2.25- 3.0	3.0- 4.0	4.0- 5.0	5.0- 7.5	7.5- 11	> 11
< 1.5	1	1	2	2	3	3	4	4	5	6
1.5-3.5	1	1	2	2	3	3	4	5	6	6
3.5-6.5	1	1	2	2	3	3	4	5	6	6
6.5-12	1	2	2	3	3	4	4	5	6	7
12-20	1	2	3	3	4	4	5	6	7	7
20-30	2	3	4	4	5	5	5	6	7	7
30-45	3	4	4	5	5	6	6	7	7	8
45-70	3	4	4	5	5	6	7	7	8	8
70-110	4	4	5	6	6	7	8	8	9	9
> 110	4	5	6	7	7	8	9	9	9	9

Exhibit I-2 shows the year 2008 area types by zone.

Exhibit I-2 2008 Area Types



1.4 Validation Methodology

When setting a new base year, a model can be validated by using the model's latest set of highway and transit networks and socioeconomic inputs for a particular year and comparing the results to real world data. BMC uses survey data to compare with the results at various stages in the running of the model, while comparisons with actual traffic counts at the end provide an additional check.

A second characteristic of a good model is the ability to forecast future year conditions, with appropriate elasticities, considering the types of policies and investments that will be evaluated using the model. Maintaining the appropriate sensitivities should not be sacrificed to the goal of achieving perfect replication of the base condition.

Model validation requires a thorough examination of model results to ensure travel model ability to replicate the base year travel condition as well as its transferability to forecast future travel scenarios. In general, model validation process is guided by the principle of a balancing act between calibrating model parameters to replicate base year conditions within acceptable range of error and maintaining the models flexibility of forecasting capability.

Once all data have been gathered and the model has been run successfully, the analysis of the results can determine the model's validity.

Appendix F: HPMS Adjustment Factors

HPMS Adjustment Factors by Jurisdiction

		<i>Interstate</i>	<i>Freeway</i>	<i>Principal Arterial</i>	<i>Minor Arterial</i>	<i>Collector</i>
Urban	Baltimore City	1.3478	1.2498	1.0398	1.4287	4.6991
	Anne Arundel	0.8978	1.1835	1.0847	1.1684	1.3285
	Baltimore	1.0793	1.2692	0.9734	1.3642	1.4579
	Carroll	0.6718	0.6718	1.1587	0.6408	0.5709
	Harford	1.1253	1.3584	1.3625	1.1830	1.1490
	Howard	0.9169	1.2020	0.9354	1.2103	1.0744
Rural	Baltimore City	1.3478		1.0398	1.4287	4.6991
	Anne Arundel	0.9072		1.0960	1.1798	1.0931
	Baltimore	0.9314		0.9650	0.7537	1.0062
	Carroll	0.6718		0.6384	0.9785	0.8414
	Harford	1.0929		0.9179	0.9140	1.0542
	Howard	0.7065		1.2601	0.6279	0.6278

Local to Non-local Ratios by Jurisdiction

<i>Jurisdiction</i>	<i>Urban</i>	<i>Rural</i>
Baltimore City	0.0779	0.0779
Anne Arundel	0.0769	0.1394
Baltimore	0.07777	0.1387
Carroll	0.07776	0.1272
Harford	0.0775	0.1363
Howard	0.0768	0.1379

Appendix G: Resolutions

BALTIMORE METROPOLITAN PLANNING ORGANIZATION

BALTIMORE REGIONAL TRANSPORTATION BOARD RESOLUTION #17-4

**APPROVAL OF THE BALTIMORE REGION
FY 2017-2020 TRANSPORTATION IMPROVEMENT PROGRAM**

WHEREAS, the Baltimore Regional Transportation Board is the designated Metropolitan Planning Organization for the Baltimore region, encompassing the Baltimore Urbanized Area, and includes official representatives of the cities of Annapolis and Baltimore, the counties of Anne Arundel, Baltimore, Carroll, Harford, Howard and Queen Anne's, as well as representatives of the Maryland Department of Transportation, the Maryland Department of the Environment, the Maryland Department of Planning, and the Maryland Transit Administration; and

WHEREAS, the FY 2017-2020 Baltimore Region Transportation Improvement Program was prepared in response to MAP-21's successor, the Fixing America's Surface Transportation (FAST) Act, and meets all of the requirements of the February 2007 final rule governing the development of metropolitan plans and programs, and all projects and activities funded in the FY 2017-2020 TIP have been developed in relationship to the regionally adopted *Maximize2040: A Performance-Based Transportation Plan* and subsequent amendments; and

WHEREAS, the FY 2017-2020 Baltimore Region Transportation Improvement Program is a prioritized program of transportation projects which are financially constrained by year and includes a financial plan that demonstrates that projects can be implemented using current revenue sources; and

WHEREAS, a range of outreach strategies was employed to share information about the FY 2017-2020 Baltimore Region Transportation Improvement Program including a public review from May 23, 2016 to June 24, 2016. The public review included four public meetings and a presentation to the Public Advisory Committee. The FY 2017-2020 TIP was also supported by an online interactive map and presentation. All comments were considered by the BRTB with responses prepared in advance of the scheduled vote; and

WHEREAS, the FY 2017-2020 Baltimore Region Transportation Improvement Program uses federal and matching funds for the following project categories:

- 47 percent highway preservation,
- 19 percent transit,
- 15 percent highway capacity,
- 9 percent emission reduction strategies,
- 3 percent environmental/safety,
- 3 percent commuter rail,
- 2 percent miscellaneous,

1 percent ports, and
1 percent enhancement program.

NOW, THEREFORE, BE IT RESOLVED that the Baltimore Regional Transportation Board approves the FY 2017-2020 Baltimore Region Transportation Improvement Program.

I HEREBY CERTIFY that the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, approved the aforementioned resolution at its July 26, 2016 meeting.

7-26-16

Date



Clive Graham, Chairman
Baltimore Regional Transportation Board

BALTIMORE METROPOLITAN PLANNING ORGANIZATION

**BALTIMORE REGIONAL TRANSPORTATION BOARD
RESOLUTION #17-3**

**APPROVAL OF AN AMENDMENT TO
THE 2015 BALTIMORE REGIONAL TRANSPORTATION PLAN (*MAXIMIZE2040*)**

WHEREAS, the Baltimore Regional Transportation Board is the designated Metropolitan Planning Organization for the Baltimore region, encompassing the Baltimore Urbanized Area, and includes official representatives of the cities of Annapolis and Baltimore, the counties of Anne Arundel, Baltimore, Carroll, Harford, Howard and Queen Anne's, as well as representatives of the Maryland Department of Transportation, the Maryland Department of the Environment, the Maryland Department of Planning, and the Maryland Transit Administration; and

WHEREAS, the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, is required under the Fixing America's Surface Transportation (FAST) Act to complete a long-range transportation plan every four years for the Baltimore region; and

WHEREAS, the U.S. Department of Transportation has just issued final Metropolitan Transportation Planning regulations for MAP-21 or the FAST Act. The BRTB, in developing *Maximize2040* followed guidance based on the 2005 legislation known as the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); and

WHEREAS, development of *Maximize2040* and subsequent amendments have followed a continuous, cooperative, and comprehensive planning process and consider and integrate as appropriate the federal planning factors documented in the Metropolitan Transportation Planning regulations (February 14, 2007 *Federal Register*); and

WHEREAS, the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, approved *Maximize2040* at its November 24, 2015 meeting, with federal approval on January 15, 2016; and

WHEREAS, the Maryland Department of Transportation on behalf of the State Highway Administration has requested approval of an amendment to *Maximize2040* through the approved long-range plan amendment process; and

WHEREAS, the State Highway Administration proposes to advance the implementation date from 2030 to 2021 for a segment (Linden Church Road to I-70) of the main MD 32 project which extends from MD 108 to I-70. Further, (1) the total cost of the MD 32 project for this segment is \$121,930,000, (2) \$61,273,000 of these funds will apply to the time frame covered by the FY 2017-2020 TIP, and (3) the BRTB has identified the sources of committed funds in the TIP and, based on financial forecasts prepared for *Maximize2040*, SHA and the BRTB have determined that sufficient funds are available to cover the estimated costs of the MD 32 project that will apply beyond the time frame of the FY 2017-2020 TIP. Within this context, the BRTB has found the proposed amendment is in compliance with the fiscal constraint requirement for both *Maximize2040* and the FY 2017-2020 TIP (see Attachment for details); and

WHEREAS, the MD 32 project would add capacity to the transportation network and thus was included in the regional emissions analysis of the conforming *Maximize2040* (with the assumption of a year of operation of 2030); and

WHEREAS, the year of operation of this segment of the project has advanced to 2021, the project was included in the modeled transportation network within an earlier timeframe and 2025 horizon year modeling has been retested in the regional emissions analysis; and

WHEREAS, The Interagency Consultation Group (ICG) has determined that implementation of the MD 32 project will not worsen the region's air quality or delay the timely attainment of national air quality standards or interfere with implementation of any transportation control measures (TCMs), consistent with the Conformity Rule (40 CFR Parts 51 and 93); and

WHEREAS, the proposed amendment to *Maximize2040* was publicized for public review from May 23, 2016 to June 24, 2016 with four public meetings held in conjunction with those for the FY 2017-2020 TIP and a presentation to the Public Advisory Committee. Several comments were received on this amendment and were responded to.

NOW, THEREFORE, BE IT RESOLVED that the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, approves the attached amendment to *Maximize2040* and finds it to conform to the applicable Maryland State Implementation Plan and requirements of the 1990 Clean Air Act Amendments.

I HEREBY CERTIFY that the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, approved the aforementioned resolution at its July 26, 2016 meeting.

7-26-16
Date



Clive Graham, Chairman
Baltimore Regional Transportation Board

Amendment to *Maximize2040: A Performance-Based Transportation Plan* with an Air Quality Conformity Determination

MD 32: Linden Church Road to I-70

July 26, 2016



Amendment to Maximize2040 with an Air Quality Conformity Determination

This document describes a proposed amendment to *Maximize2040: A Performance-Based Transportation Plan*, approved in November 2015. The project covered by this amendment is included in the draft *2017-2020 Transportation Improvement Program (TIP)*.

AMENDING MAXIMIZE2040 TO UPDATE THE YEAR OF OPERATION FOR MD 32: LINDEN CHURCH RD TO I-70 FROM 2030 TO 2021

The Maryland State Highway Administration (SHA) proposes to advance the implementation date for a segment of the MD 32 project currently in the 2015 long-range transportation plan (known as *Maximize2040*), from 2030 to 2021.

The project limits for the entire MD 32 project are from MD 108 to I-70. This amendment advances the roadway widening of a 6.6-mile segment, from Linden Church Road to I-70.

The table below shows details about this segment of the MD 32 project. "Year of expenditure" cost is an estimate that accounts for inflation from the current year (2016) to the expected year of operation. Following this table are the corresponding pages from the draft 2017-2020 TIP.

Project	MD 32: MD 108 to I-70
Project Sponsor	State Highway Administration
Jurisdiction	Howard County
Project Limits	Linden Church Road to I-70 (6.6 miles)
Description	Widen MD 32 in both directions, from two to four lanes, to provide an access-controlled, divided highway. Final scope details to be refined as the design-build process progresses.
Expected Year of Operation	2021 (The year of operation in the November 2015 <i>Maximize2040</i> plan was between 2030 and 2040, and was originally tested in the air quality conformity for 2030)
Projected Cost	\$121.93 million (year of expenditure)
Justification	This project will reduce congestion, enhance connectivity for daily life, and improve operations and safety on this segment of MD 32.



MD 32: Linden Church Road to I-70, Capacity & Safety Improvements

TIP ID	66-1703-41	Year of Operation	2021
Agency	SHA - Howard County	Project Type	Roadway widening
Project Category	Highway Capacity	Functional Class	Other Principal Arterial
Conformity Status	Not Exempt	Physical Data	2 to 4 Lanes, 6.6 Miles
CIP or CTP ID(s)	HO7561	Est. Total Cost	\$121,930,000

Description:

The project will construct capacity and safety improvements along MD 32, from north of Linden Church Road to I-70.

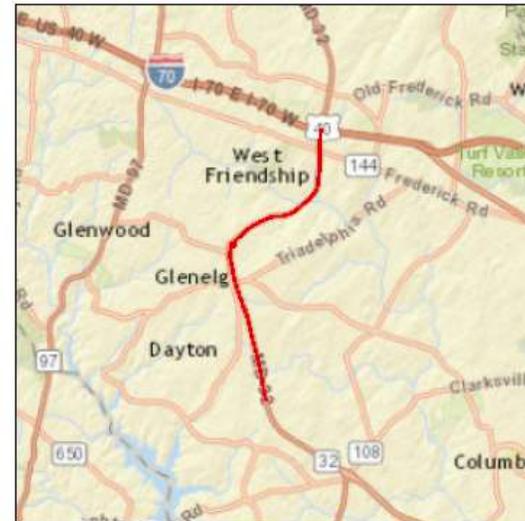
This is a design build project and phase II of the MD 32: MD 108 to I-70 Corridor project improvements. This is the final phase and contains the funding for the original corridor project planning. Phase 1, MD 108 to Linden Church Road, has TIP ID #66-1602-41. The MD 32: MD 108 to I-70 Corridor project had TIP #66-1405-41 in previous TIPs.

Justification:

The project will address congestion and safety problems which have been experienced as a result of increasing traffic volumes on the existing two lane roadway.

Connection to Long-Range Transportation Planning Goals:

- 1.C Improve System Safety -- Eliminate hazardous or substandard conditions.
- 6.F Improve System Security -- Increase system redundancy.
- 7.D Promote Prosperity and Economic Opportunity -- Invest within local- and state-designated growth areas.





MD 32: Linden Church Road to I-70, Capacity & Safety Improvements

(Funding in Thousands)

Other

Phase	FY 2017 Federal Funds	FY 2017 Matching Funds	FY 2018 Federal Funds	FY 2018 Matching Funds	FY 2019 Federal Funds	FY 2019 Matching Funds	FY 2020 Federal Funds	FY 2020 Matching Funds	Total Four-Year Funding Request
CON	\$0	\$0	\$0	\$0	\$0	\$10,042	\$0	\$30,127	\$40,169
OTH	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROW	\$0	\$3,589	\$0	\$11,616	\$0	\$0	\$0	\$0	\$15,205
Subtotal	\$0	\$3,589	\$0	\$11,616	\$0	\$10,042	\$0	\$30,127	\$55,374

National Highway Performance Program (National Highway System, Interstate Maintenance, Bridge (on-System))

Phase	FY 2017 Federal Funds	FY 2017 Matching Funds	FY 2018 Federal Funds	FY 2018 Matching Funds	FY 2019 Federal Funds	FY 2019 Matching Funds	FY 2020 Federal Funds	FY 2020 Matching Funds	Total Four-Year Funding Request
CON	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
OTH	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PE	\$1,440	\$1,360	\$1,499	\$800	\$640	\$160	\$0	\$0	\$5,899
PP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROW	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$1,440	\$1,360	\$1,499	\$800	\$640	\$160	\$0	\$0	\$5,899
Total	\$1,440	\$4,949	\$1,499	\$12,416	\$640	\$10,202	\$0	\$30,127	\$61,273

Amendment to Maximize2040 with an Air Quality Conformity Determination

PROCESS REQUIRED FOR AMENDING *MAXIMIZE2121040*

In response to federal law and regulations, the Baltimore Metropolitan Planning Organization (MPO), known as the Baltimore Regional Transportation Board (BRTB), has developed a dynamic process for amending *Maximize2040* (the Regional Transportation Plan) that meets federal requirements and involves participation from BRTB members and from the public at large. The process also requires that nonexempt (and regionally significant for air quality purposes) proposed project(s) undergo a formal air quality conformity analysis to ensure the plan retains its conformity status under the Clean Air Act Amendments of 1990 (CAAA). In addition, the BRTB must demonstrate that the plan is fiscally constrained. This means that the plan must identify specific committed or reasonably anticipated sources of funding for all programs and projects in the document.

Federal regulations require that the BRTB consider this amendment because **the project sponsor proposes a major change in the project initiation date** that was included in the *Maximize2040* document the BRTB adopted on November 24, 2015.

ASSESSMENT OF FISCAL CONSTRAINT

Federal law requires that the BRTB analyze projects proposed for inclusion in plans and programs to ensure that the fiscal resources required to construct them are reasonably expected to be available within the specified time frame. SHA expects to use \$2.139 million in federal funds, with the remainder of the funding for the \$121.93 million estimated cost coming from state and local sources. Approximately half of these funds will be applied within the time frame (2017-2020) covered by the draft TIP. Based on financial forecasts prepared for *Maximize2040*, and accounting for the decision not to pursue a major transit project (which will make additional funds available for other projects), SHA and the BRTB have determined that sufficient funds are available to cover the estimated costs of this MD 32 project that will apply beyond the time frame of the 2017-2020 TIP. Within this context, the BRTB has found **the proposed amendment is in compliance with the fiscal constraint requirement for both *Maximize2040* and the 2017-2020 TIP.**

ANALYSIS OF AIR QUALITY CONFORMITY

Under the Clean Air Act Amendments, areas designated as being in nonattainment or maintenance of air quality standards are required to review their current transportation plans and programs to ensure they are in conformity with the applicable State Air Quality Implementation Plan (SIP). The Baltimore region is a federally designated “nonattainment” area for ground-level ozone and is in a maintenance stage for fine particulate matter. It is the BRTB’s understanding that the region is no longer required to address carbon monoxide in the conformity determination as more than 20 years has passed since the EPA determined the Baltimore City Central Business District (CBD) attained the

Amendment to Maximize2040 with an Air Quality Conformity Determination

CO NAAQS. This attainment determination occurred on December 15, 1995. The second maintenance plan for CO was in place until December 15, 2015.

Federal law requires the MPO to analyze projects proposed for amendment to ensure they do not jeopardize the conformity of the plan under federal rules and guidelines. A technical process estimates the mobile source emissions associated with projected travel demand considering the latest planning assumptions and the transportation network supply. The estimated mobile emissions are compared to the mobile source emission budgets contained in the State Implementation Plan (SIP) for the Baltimore region. The mobile source budgets contained in the SIP document, prepared by the Maryland Department of the Environment (MDE), are established through technical analysis with the goal of attaining and maintaining federal air quality standards.

The MD 32: Linden Church Road to I-70 project has been determined by the Interagency Consultation Group (ICG) to be nonexempt from the requirement to determine conformity, through review of the Transportation Conformity Rule (§93.126 and §93.127). This project will provide additional capacity to the transportation network. While the MD 32 project was included in the regional emissions analysis of the conforming 2015 Plan, the year of operation of this segment of the project is advancing from 2030 to 2021. As a result, the segment is now included in the modeled transportation network within an earlier timeframe, and the 2025 horizon year modeling must now be re-tested in the regional emissions analysis. The ICG, consisting of representation from the MPO and the Maryland departments of Transportation and the Environment, provided direction for how to move forward with the conformity determination. A conformity determination ensures that the implementation of the project in the *amended Maximize2040* and draft 2017-2020 Transportation Improvement Program does not worsen the region's air quality or delay the timely attainment of national ambient air quality standards.

To determine conformity to air quality improvement objectives delineated in the SIP, a regional emissions analysis was performed using EPA's MOVES2014 model. The projected emissions from the regional transportation network, considering the combined effect of this project together with the conforming long range transportation plan (*Maximize2040*) and the draft 2017-2020 TIP, do not cause the Plan or TIP to exceed the SIP mobile source emission budgets. The results indicate that mobile source emissions associated with the implementation of projects contained in amended *Maximize2040* and the draft TIP are below established mobile source budgets for all affected horizon years. Tables 1 and 2 provide region-wide on-road emission estimates for four horizon years: 2017, 2025, 2035, and 2040. The estimates from 2017, 2035, and 2040 reflect the emission estimates from the November 2015 Conformity Determination of *Maximize2040* and the draft 2017-2020 TIP. These

Amendment to Maximize2040 with an Air Quality Conformity Determination

three years were not re-tested for this analysis, as no projects were changing status during these years, as compared to the November 2015 Plan. The 2025 horizon year, however, was re-tested as part of this analysis and emissions results and budgets are highlighted. Emissions resulting from the retested 2025 network are below SIP budgets for each pollutant. Emissions resulting from the 2017, 2035, and 2040 networks are also below SIP budgets for each pollutant.

Conformity Results: Implementation of this project will not worsen the region’s air quality or delay the timely attainment of national air quality standards or interfere with implementation of any transportation control measures (TCMs).

Table 1

Regional Emissions Analysis Results for **Maximize2040 and Draft 2017-2020 TIP with MD 32: Linden Church Road to I-70 project in 2025**
Network-Based Analysis Ozone Precursor Mobile Source Emissions
(average summer weekday, tons/day)

	Implementation		Motor Vehicle Emissions Budgets ¹	
	VOC	NO _x	VOC	NO _x
2017	26.6	66.9	40.2	93.5
2025	16.7	31.9	40.2	93.5
2035	10.5	19.1	40.2	93.5
2040	9.9	18.6	40.2	93.5

¹ 2012 Reasonable Further Progress (RFP) Budgets, Baltimore Serious Area Nonattainment SIP for 8-hour Ozone (EPA Adequacy Determination Date TBD)

Table 2

Regional Emissions Analysis Results for **Maximize2040 and Draft 2017-2020 TIP with MD 32: Linden Church Road to I-70 project in 2025**
Network-Based Analysis PM2.5 Precursor Mobile Source Emissions (tons/year)

	Implementation		Motor Vehicle Emissions Budgets ¹	
	Direct PM2.5	NO _x	Direct PM2.5	NO _x
2017	1,161.88	25,771.08	1,218.60	29,892.01
2025	635.33	12,433.96	1,051.39	21,594.96
2035	426.75	7,655.96	1,051.39	21,594.96
2040	411.76	7,505.03	1,051.39	21,594.96

¹ Baltimore Nonattainment Area PM2.5 Maintenance State Implementation Plan (Approved December 2014.)

Amendment to Maximize2040 with an Air Quality Conformity Determination

PUBLIC COMMENT OPPORTUNITIES

As mandated by federal law, the BRTB is providing opportunities for public review and comment on the proposed *Maximize2040* amendment, the draft 2017-2020 TIP, and the related Conformity Determination. Information will be placed on the Baltimore Metropolitan Council website, provided to local planning agencies, and distributed to local media and interested parties.

PUBLIC REVIEW / COMMENT PERIOD

The BRTB will provide a 30-day review and comment period for the enclosed plan amendment, the draft 2017-2020 Transportation Improvement Program (TIP) amendment, and Conformity Determination (see information about open house public meetings below). See Appendix B for a summary of public comments and BRTB responses (when available).

The BRTB will meet on Tuesday, August 23 at 9 A.M. at the Baltimore Metropolitan Council (Offices @ McHenry Row, 1500 Whetstone Way, Suite 300, Baltimore, MD 21230) to consider approval of the associated amendment to *Maximize2040* and the draft *2017-2020 Transportation Improvement Program* (TIP), with an air quality Conformity Determination.

OPEN HOUSE PUBLIC MEETINGS

The BRTB invites the public to attend the following public meetings relative to the amendment to *Maximize2040*. (In addition, the BRTB will conduct separate additional meetings for the draft 2017-2020 TIP). All meeting locations are ADA-accessible for people with disabilities.

<i>Date and Time</i>	<i>Location</i>	<i>Access by Transit</i>
Wednesday, June 1, 2016 4:30 to 5:30 p.m. <i>with Public Advisory Committee (PAC) Policy Subcommittee</i>	Baltimore Metropolitan Council 1500 Whetstone Way, Suite 300 Baltimore, MD 21230	MTA Route 1 Charm City Circulator
Wednesday, June 8 6:30 to 8:30 p.m.	Baltimore County Public Library, Woodlawn Branch 1811 Woodlawn Dr Woodlawn, MD 21207	MTA Bus Route 44 (Security Square Mall to Rosedale Industrial Park) stops directly in front of the library.
Thursday, June 9, 2016 5 to 7:30 p.m. <i>with SHA MD 32 Planning Study public meeting</i>	Sykesville Freedom District Fire Department Legacy Hall 6680 Sykesville Road Sykesville, MD 21784	
Tuesday, June 14 6:30 to 8:30 p.m.	Baltimore County Public Library, Essex Branch 1110 Eastern Blvd Essex, MD 21221	MTA Bus Routes 23 and 55

BALTIMORE METROPOLITAN PLANNING ORGANIZATION

**BALTIMORE REGIONAL TRANSPORTATION BOARD
RESOLUTION #17-5**

**APPROVAL OF THE CONFORMITY DETERMINATION FOR THE
FY 2017-2020 BALTIMORE REGION TRANSPORTATION IMPROVEMENT PROGRAM
AND THE AMENDED PLAN: *MAXIMIZE2040***

WHEREAS, the Baltimore Regional Transportation Board (BRTB) is the designated Metropolitan Planning Organization for the Baltimore region, encompassing the Baltimore Urbanized Area, and includes official representatives of the cities of Annapolis and Baltimore, the counties of Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne's as well as representatives of the Maryland Department of Transportation, the Maryland Department of the Environment, the Maryland Department of Planning, and the Maryland Transit Administration; and

WHEREAS, the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, is required under the Clean Air Act Amendments of 1990 and the U.S. Environmental Protection Agency's Transportation Conformity Rule to conduct analyses to ensure that the region's transportation plans and programs conform with state implementation plans (SIPs); and

WHEREAS, the FY 2017-2020 Baltimore Region Transportation Improvement Program is a prioritized program of transportation projects which are financially constrained by year and includes a financial plan that demonstrates that projects can be implemented using current revenue sources. The FY 2017-2020 Baltimore Region Transportation Improvement Program was prepared in accordance with 23 CFR Part 450 Subpart C Metropolitan Transportation Planning and Programming Requirements, and all projects and activities funded in this document have been developed in relationship to the regionally adopted *Maximize2040*, as amended; and

WHEREAS, the Interagency Consultation Group (ICG), which includes the Maryland Department of the Environment, the Maryland Department of Transportation and a local jurisdiction representative of the Baltimore Regional Transportation Board, reviewed and approved the air quality conformity methodology used as well as the results of the technical analysis; and

WHEREAS, The ICG has approved the conformity analysis as reported in the "Conformity Determination of FY 2017-2020 Baltimore Region Transportation Improvement Program and Amended *Maximize2040*," dated July 2016, which provides the basis for a finding of conformity (Attachment 1: Tables 1 to 4) to the latest EPA-deemed adequate/approved SIP motor vehicle emissions budgets for 8-hour ozone and annual levels of fine particulate matter; and

WHEREAS, the results of the conformity analysis for the Baltimore nonattainment area indicate that the projected mobile source emissions are below the applicable motor vehicle emission budgets for the established analysis years of 2017, 2025, 2035 and 2040 (as attached); and

WHEREAS, a 30-day public comment period was provided, including a public meeting on project elements of the FY 2017-2020 Baltimore Region Transportation Improvement Program, the Amended Plan, and the results of the conformity analysis. No public comments were submitted on the Conformity Determination.

NOW, THEREFORE, BE IT RESOLVED that it is the conclusion of the Baltimore Regional Transportation Board, in its capacity as the Metropolitan Planning Organization for the Baltimore region, that the FY 2017-2020 Baltimore Region Transportation Improvement Program and the amended *Maximize2040* are found to be in conformity with the requirements of the Clean Air Act Amendments of 1990 and the relevant sections of the Final Transportation Conformity Regulations 40 CFR part 93.

I HEREBY CERTIFY that the Baltimore Regional Transportation Board, as the Metropolitan Planning Organization for the Baltimore region, approved the aforementioned resolution at its July 26, 2016 meeting.

7-26-16

Date



Clive Graham, Chairman
Baltimore Regional Transportation Board

Table 1. VOC Emissions Test Results (average summer weekday, tons/day)

	2017	2025	2035	2040
Total Emissions Modeled	26.6	16.7	10.5	9.9
Conformity Budget¹	40.2	40.2	40.2	40.2
Conformity Result	Pass	Pass	Pass	Pass

¹ 2012, 8-hour ozone Reasonable Further Progress (RFP) SIP budget for the Baltimore region (motor vehicle emission budgets determined adequate by EPA on February 22, 2016)

Table 2. Weekday NOx Emissions Test Results (average summer weekday, tons/day)

	2017	2025	2035	2040
Total Emissions Modeled	66.9	31.9	19.1	18.6
Conformity Budget¹	93.5	93.5	93.5	93.5
Conformity Result	Pass	Pass	Pass	Pass

¹ 2012, 8-hour ozone Reasonable Further Progress (RFP) SIP budget for the Baltimore region (motor vehicle emission budgets determined adequate by EPA on February 22, 2016)

Table 3. Annual NOx Emissions Test Results (tons/year)

	2017	2025	2035	2040
Total Emissions Modeled	25,771.08	12,433.96	7,655.96	7,505.03
Conformity Budget²	29,892.01	21,594.96	21,594.96	21,594.96
Conformity Result	Pass	Pass	Pass	Pass

² Baltimore Nonattainment Area PM2.5 Maintenance State Implementation Plan (Approved December 2014.)

Table 4. Annual Direct PM2.5 Emissions Test Results (tons/year)

	2017	2025	2035	2040
Total Emissions Modeled	1,161.88	635.33	426.75	411.76
Conformity Budget²	1,218.60	1,051.39	1,051.39	1,051.39
Conformity Result	Pass	Pass	Pass	Pass

² Baltimore Nonattainment Area PM2.5 Maintenance State Implementation Plan (Approved December 2014.)

Appendix H: Public Participation

ADVERTISEMENT placed in the following publications:

- Baltimore Sun
- Baltimore Sun Online
- Carroll County Times
- Carroll Eagle

Also used in the following ways:

- Posted in BMC Offices
- Distributed to Public Advisory Committee
- Posted on BMC web site
- Shared via social media



INVESTING IN THE FUTURE OF OUR REGION

The Baltimore Regional Transportation Board (BRTB) has a **\$2.7 billion plan** for investing in the region during the next 5 years and we want to know what you think!

The BRTB brings together local decision-makers, state and local agencies, and the public to plan for the Baltimore region's future and make the best use of limited resources for the region's residents and businesses. Please join us for a meeting and make a comment on these plans!

In addition to the draft 2017-2020 Transportation Improvement Program, the BRTB also welcomes comments on an amendment to *Maximize2040: A Performance-Based Transportation Plan* for the MD 32 Widening Project, and an air quality analysis of these plans.

What do you think? Tell us at a Meeting:



Wednesday, June 1 – 4:30 to 5:30 p.m.

@ BRTB Public Advisory Committee (PAC) Policy Subcommittee
Baltimore Metropolitan Council – Offices @ McHenry Row
1500 Whetstone Way, Suite 300, Baltimore, MD 21230

Wednesday, June 8 – 6:30 to 8:30 p.m.

Baltimore County Public Library, Woodlawn Branch
1811 Woodlawn Dr, Woodlawn, MD 21207

Thursday, June 9 – 5 to 7:30 p.m.

@ SHA MD 32 Planning Study public meeting
Sykesville Freedom District Fire Department Legacy Hall
6680 Sykesville Rd., Sykesville, MD 21784

Tuesday, June 14 – 6:30 to 8:30 p.m.

Baltimore County Public Library, Essex Branch
1110 Eastern Blvd, Essex, MD 21221

Send your comments on these plans by June 24 to:



Email: comments@baltometro.org

Twitter: @BaltoMetroCo @Bmoreinvolved #BRTBlistens

Mail: The Baltimore Regional Transportation Board, 1500 Whetstone Way, Suite 300, Baltimore, MD 21230



The Baltimore Regional Transportation Board 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 410-712-0500.

baltometro.org



PRESS RELEASE



Baltimore
Metropolitan
Council

FOR IMMEDIATE RELEASE
CONTACT: Laura Van Wert, 410-732-9564

BRTB SEEKS PUBLIC COMMENT ON \$2.71 BILLION IN TRANSPORTATION PROJECTS

BALTIMORE, MD (May 23, 2016) – The Baltimore Regional Transportation Board (BRTB) as the Metropolitan Planning Organization (MPO) for the Baltimore region seeks public comments through **Friday, June 24** on three transportation-related documents – the draft *2017-2020 Transportation Improvement Program (TIP)*, an amendment to *Maximize2040: A Performance-Based Transportation Plan*, and the associated Air Quality Conformity Determination.

The BRTB is scheduled to vote on these documents on **Tuesday, July 26**.

2017-2020 Transportation Improvement Program (TIP)

The draft *2017—2020 TIP* is a listing of transportation projects requesting funding that includes about \$2.71 billion in proposed federal, state and local money for highway, transit, bicycle and pedestrian projects throughout the region during the next four years. The funding will go towards maintaining, operating and expanding the transportation system.

Please view the draft *2017-2020 TIP* or project highlights [online](#) or through BRTB's [interactive project map](#).

Maximize2040 Amendment to MD 32 Widening Project

The Baltimore Regional Transportation Board (BRTB) also seeks public comments for one amendment to *Maximize2040: A Performance-Based Transportation Plan* for the Maryland State Highway Administration's (SHA) **MD 32 Widening Project**.

Maximize2040 is the region's long-range transportation plan developed by the BRTB. *Maximize2040* serves as the blueprint for fiscally constrained transportation planning in the Baltimore region from the years 2020 through 2040. The plan also establishes the region's broad transportation goals and performance measures, which now serve as guiding principles as the region plans and carries out projects.

Please learn more about the [BRTB's summary information](#) of the project.

Air Quality Conformity Determination of the 2017-2020 TIP and Amended *Maximize2040*

The Baltimore region has been designated as not meeting National Ambient Air Quality Standards and, as a result, the BRTB must review its current transportation plan and program to ensure conformity with the state plan to meet these standards, known as the State Implementation Plan (SIP). The air quality conformity determination report details a comprehensive analysis of effects of the draft 2017-2020 TIP for the Baltimore region and the long-range projects in *Maximize 2040* (as amended). The report addresses the following criteria pollutants: ozone and fine particulate matter.

The conformity results show that implementation of these projects will not worsen the region's air quality or delay the timely attainment of national air quality standards. The draft air quality conformity determination is available in PDF format [for download](#).

Public Comment Information

BRTB will host the following public meetings:

- **Wednesday, June 1, 4:30-5:30 p.m.**, during the Public Advisory Committee (PAC) policy subcommittee meeting at the Baltimore Metropolitan Council, located at the Offices @ McHenry Row, 1500 Whetstone Way, Suite 300, Baltimore, MD 21230
- **Wednesday, June 8, 6:30-8:30 p.m.**, at the Baltimore County Public Library Woodlawn Branch, located at 1811 Woodlawn Drive, Woodlawn, MD 21207
- **Thursday, June 9, 5-7:30 p.m.**, in conjunction with the SHA MD 32 planning study public meeting at the Sykesville Freedom District Fire Department Legacy Hall, located at 6680 Sykesville Road Sykesville, MD 21784
- **Tuesday, June 14, 6:30-8:30 p.m.**, at the Baltimore County Public Library Essex Branch, located at 1110 Eastern Boulevard, Essex, MD 21221

To share your thoughts and ideas, send all comments in writing to:

The Baltimore Regional Transportation Board
Attn: Public Involvement Coordinator
Offices @ McHenry Row
1500 Whetstone Way, Suite 300
Baltimore, MD 21230

Fax: 410-732-8248

Email: comments@baltometro.org

Twitter: [@BaltoMetroCo](https://twitter.com/BaltoMetroCo) and [@BmoreInvolved](https://twitter.com/BmoreInvolved) using the hashtag #BRTBlistens

The public participation process for the TIP will also meet the FTA public participation requirements for the MTA's Program of Projects (POP).

###

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.

WEBSITE (Page 1 of 2)

The website featured downloadable copies of the documents, an interactive map of projects, and details on how to submit a comment. Links to the site were shared on BMC social media accounts multiple times.

The screenshot shows the Baltimore Metropolitan Council website. At the top left is the BMC logo. Navigation links include 'Home | About Us | Contact Us' and a menu with 'About BMC', 'About BRTB', 'Our Work', 'Information Center', and 'Be Involved'. A search bar is located on the right. Below the navigation is a large image of a highway with a city skyline in the background. To the right of the image is a 'Tweets by @BaltoMetroCo' widget showing a tweet from the council about hot weather affecting air quality. Below the image is a breadcrumb trail: 'Home | Our Work | Transportation Plans | Short Range Planning | 2017-2020 Transportation Improvement Program'. The main content area features the title '2017-2020 Transportation Improvement Program' and a sub-headline: '\$2.71 Billion in Transportation Projects Open for Public Comment Through Friday, June 24'. Below this is a link to a draft document: 'BRTB considers approval of the draft 2017-2020 Transportation Improvement Program, an amendment to Maximize2040: A Performance-Based Transportation Plan and the Air Quality Conformity Determination'. The text explains that the BRTB is seeking public comments on three documents: the draft TIP, an amendment to Maximize2040, and an Air Quality Conformity Determination. Comments are due by Friday, June 24. Details about the plans and how to comment are available below. Physical copies are available at the Regional Information Center. A list of projects follows, categorized by jurisdiction: Baltimore City, Baltimore County, Carroll County, Harford County, and Howard County. Each project description includes details about road improvements, bridge replacements, and infrastructure upgrades. At the bottom, there are links to download the draft TIP, introduction and background, and financial plan. There are also links to view projects by jurisdiction and appendices. A note states that projects are sorted by project sponsor. At the very bottom, there are links to Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, Howard County, MTA, and the Office of the Secretary and SHA.

2017-2020 Transportation Improvement Program

\$2.71 Billion in Transportation Projects Open for Public Comment Through Friday, June 24

BRTB considers approval of the draft 2017-2020 Transportation Improvement Program, an amendment to Maximize2040: A Performance-Based Transportation Plan and the Air Quality Conformity Determination

The Baltimore Regional Transportation Board (BRTB), as the Metropolitan Planning Organization (MPO) for the Baltimore region, seeks public comments through **Friday, June 24** on three transportation-related documents – the draft 2017-2020 Transportation Improvement Program (TIP), an amendment to *Maximize2040: A Performance-Based Transportation Plan*, and the associated Air Quality Conformity Determination. The BRTB is scheduled to vote on these documents on **Tuesday, July 26**.

Details about these plans and how to comment are available below. Physical copies of the documents also are available at the Baltimore Metropolitan Council's Regional Information Center.

- **Baltimore City:** Upgrades to the South East Baltimore Freight Corridor to improve truck access, reduce congestion and reroute trucks away from residential areas of Broening Highway through: the replacement of the Colgate Creek Bridge; resurfacing and geometric improvements to Keith and Holabird avenues; and Broening Highway Complete Streets improvements (for enhanced bikeability/walkability for residents). Also, the creation of a multimodal plan to serve as the framework for the eventual rehabilitation or replacement of the Hanover Street Bridge.
- **Baltimore County:** Rehabilitation or replacement of 18 local bridges; Baltimore Beltway improvements, including adding a lane on both loops of I-695 from MD 41 to MD 147, and adding a lane on the outer loop of I-695 from US 40 to MD 144. Also several new bridge replacement projects including: Crosby Road over I-695; U.S. 40 over Little and Big Gunpowder Falls; and a study to address rehabilitation or replacement for bridges at the interchange of I-695 and I-70.
- **Carroll County:** Creating a study to determine capacity and safety improvements along MD 32 from MD 26 to I-70; and two new projects, which include bridge replacements at MD 86 over the Gunpowder Falls and MD 496 over Big Pipe Creek.
- **Harford County:** Reconstruction of the intersection at U.S. 40 and MD 7/MD 159 and widening of U.S. 40 in the vicinity of this intersection; Reconstruction of two intersections along MD 22 with Beards Hill and Paradise roads, as well as the widening of MD 22 from 4 to 6 lanes between these intersections; Bridge repair or replacement for eight local bridges including the Abingdon Road Bridge over the CSX Railroad near Pulaski Highway.
- **Howard County:** Widening MD 32 from two lanes to a four-lane divided roadway from MD 108 to I-70, and adding a third lane in each direction and sidewalks to Snowden River Parkway– from Broken Land Parkway to Oakland Mills Road.

Please view the draft 2017-2020 TIP through BRTB's interactive project map. The draft 2017-2020 TIP also is available in PDF format for download:

[Download the Draft 2017-2020 TIP](#) | [Introduction and Background](#) | [Financial Plan](#)

[Projects by jurisdiction: Low-income and Minority Concentration](#) | [Appendices](#)

Projects in the 2017-2020 TIP below are sorted by project sponsor, either a local jurisdiction or state agency.

[Anne Arundel County](#) | [Baltimore City](#) | [Baltimore County](#) | [Carroll County](#)

[Harford County](#) | [Howard County](#) | [MTA](#) | [Office of the Secretary and SHA](#)

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Maximize2040 Amendment to MD 32 Widening Project

The Baltimore Regional Transportation Board (BRTB) also seeks public comments for one amendment to *Maximize2040: A Performance-Based Transportation Plan* for the Maryland State Highway Administration's (SHA) MD 32 Widening Project.

Maximize2040 is the region's long-range transportation plan developed by the BRTB. *Maximize2040* serves as the blueprint for fiscally constrained transportation planning in the Baltimore region from the years 2020 through 2040. The plan also establishes the region's broad transportation goals and performance measures, which now serve as guiding principles as the region plans and carries out projects.

[Download a summary of the *Maximize2040* amendment to the MD 32 Widening Project](#)

Analysis of Air Quality Conformity

The Baltimore region has been designated as not meeting the federal air quality standards and so must review its current transportation plan and program to ensure conformity with the State Air Quality Implementation Plan (SIP). The Air Quality Conformity Determination report details a comprehensive analysis of effects of the draft 2017-2020 TIP for the Baltimore region and the long-range projects in *Maximize2040* (as amended). The report addresses the criteria pollutants ozone and fine particulate matter.

The conformity results show that implementation of these projects will not worsen the region's air quality or delay the timely attainment of National Ambient Air Quality Standards. The draft Conformity Determination is available in PDF format for download:

[Conformity Determination](#) | [Conformity Determination - Appendices](#)

Share Your Thoughts

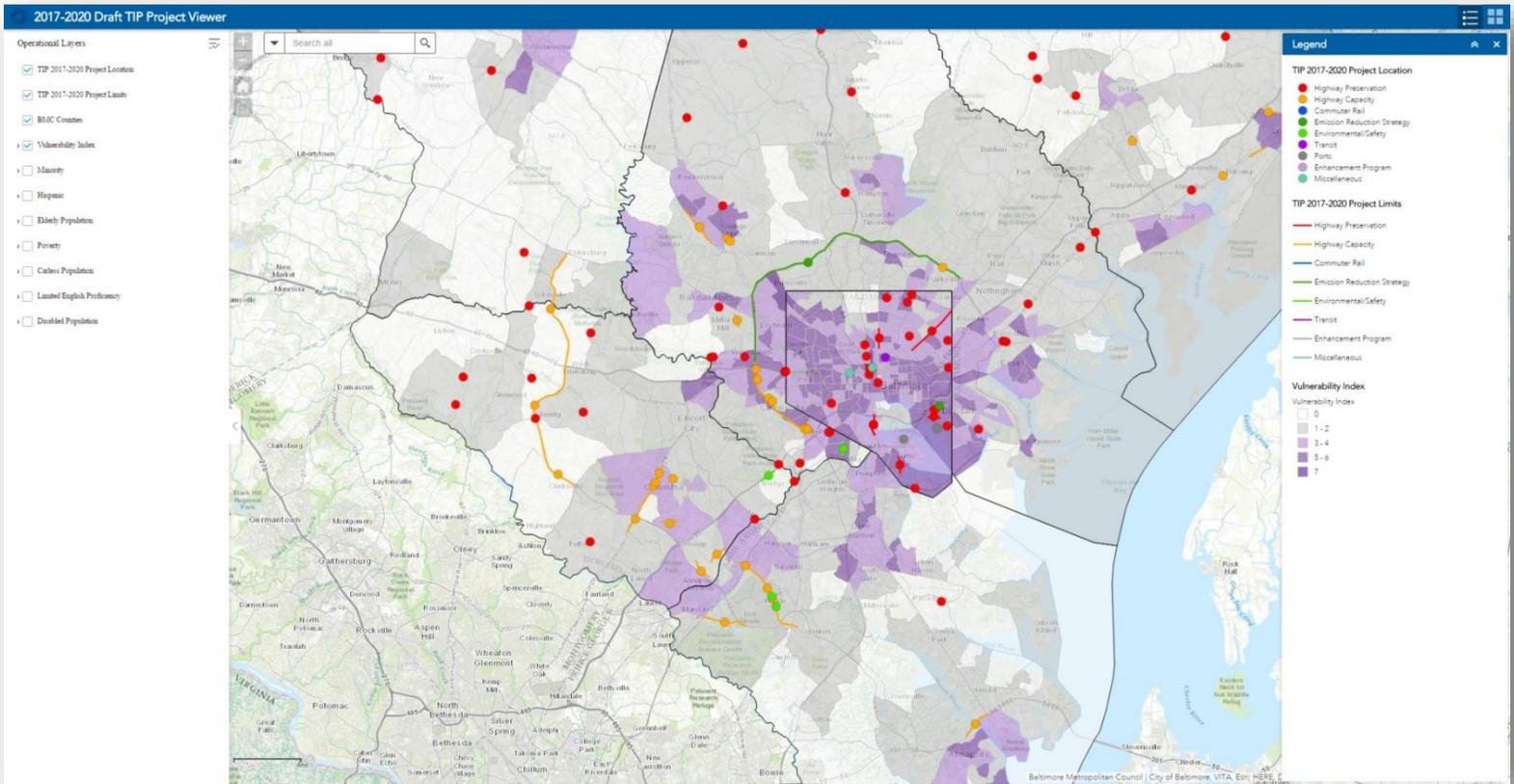
A comment period will be held from **Monday, May 23, through Friday, June 24**. The public participation process for the TIP will also meet the FTA public participation requirements for the MTA's Program of Projects (POP).

Those interested in commenting on projects may do so publicly during the following meetings in June:

- o **Wednesday, June 1** from 4:30 to 5:30 p.m., during the Public Advisory Committee (PAC) policy subcommittee
Baltimore Metropolitan Council
Offices @ McHenry Row, 1500 Whetstone Way, Suite 300, Baltimore, MD 21230
- o **Wednesday, June 8** from 6:30 to 8:30 p.m.,
Baltimore County Public Library Woodlawn Branch
1811 Woodlawn Drive, Woodlawn, MD 21207
- o **Thursday, June 9** from 5 to 7:30 p.m., in conjunction with the SHA MD 32 planning study public meeting
Sykesville Freedom District Fire Department Legacy Hall
6680 Sykesville Road Sykesville, MD 21784
- o **Tuesday, June 14** from 6:30 to 8:30 p.m.,
Baltimore County Public Library Essex Branch,
1110 Eastern Boulevard, Essex, MD 21221



INTERACTIVE TIP PROJECT MAP



PUBLIC COMMENTS

Please reference Appendix G of the 2017-2020 TIP document for public comments.

Access the BMC web page for the 2017-2020 TIP at:

<http://www.baltometro.org/our-work/transportation-plans/short-range-planning/2017-2020-transportation-improvement-program>

Appendix I: Status Report on Implementation of Emission Reduction Strategies in the Region

This Appendix includes the following sections:

- Appendix I-1: Description of Emission Reduction Strategies
- Appendix I-2: Tracking the Status of Emission Reduction Strategies

Appendix I-1: Description of Emission Reduction Strategies

This appendix provides descriptions of the key categories of emission reduction strategies used in the Baltimore region and the status of implementation of those strategies. In addition to the narrative provided here in Appendix I-1, Appendix I-2 provides data collected from tracking the status of “emission-friendly” projects in the region. The categories of strategies covered in this appendix include Commuter Assistance Activities, Bicycle/Pedestrian Activities, Park-and-Ride Programs/Lots, Public Transit Services, Management and Operations Projects, Preferential Parking Management, and Clean Vehicles, Fuels and Technologies. These categories are used for organizational purposes and do not relate directly to any particular legislative or funding areas.

COMMUTER ASSISTANCE ACTIVITIES

Rideshare Program

The Rideshare Program, a continuing state-wide program since 1978, is a program administered by the Maryland Transit Administration that provides funding support to local rideshare programs in order to strengthen ride matching and Transportation Demand Management (TDM) services at the jurisdictional level. The Baltimore Metropolitan Council (BMC) provides ridesharing coordination services for Baltimore and Carroll Counties. Through the Rideshare program, the following rideshare services are provided:

- Carpooling/vanpool/trip matching is provided to interested commuters via the Commuter Connections Database.
- TDM information is provided to commuters and employers.
- Commuters and employers are provided assistance with identifying opportunities for alternative commuting strategies such as transit, flexible work hours, and teleworking.
- Printed and electronic information is distributed to both public and private employers.
- Advertisements are placed in newspapers, regional magazines, radio, television, and online to encourage ridesharing.
- Clean Commute activities, Bike to Work Day, and the MTA Commuter Choice discount transit fare program are promoted.
- The Regional Guaranteed Ride Home program is promoted to both employers and commuters.
- The Regional School Pool program is promoted, which matches students (through their parents’ registration) for carpool, bike convoy and pedestrian group matching within member schools.

Commuter Choice Maryland and the Maryland Commuter Tax Credit

The Commuter Choice Maryland commuter benefits program is an incentive designed primarily to encourage Maryland employees who drive to work to switch to transit or vanpools. It has a membership of approximately 375 employers and 18,000 employees. The program provides employers with monthly pass distribution options which encourage employees to ride MTA Buses, Light Rail, Metro Subway, MARC trains or qualified vanpools to work for less than full fare. Employers are also rewarded with special federal and state tax deductions, state tax credits, and savings on certain payroll taxes.

The Maryland Commuter Tax Credit allows Maryland-based employers to claim a 50% state tax credit for providing tax-free commuter benefits to an employee and are eligible to receive a maximum tax credit of \$50 per month per participating employee. Private, non-profit organizations are also able to participate in the program. Maryland employers are able to claim tax credits for providing transit passes and vouchers, as well as for setting up a Guaranteed Ride Home, Cash In Lieu of Parking, or Vanpooling programs. Carpooling is not an eligible expense under the program. Employers must register annually to participate in the Maryland Commuter Tax Credit program. This feature of Maryland law has the potential to reduce single occupancy vehicle use, increase transit ridership, reduce traffic congestion, and improve air quality. Details are available at www.commuterchoicemaryland.com.

Clean Commuting Outreach

The BRTB teams up with state transportation and air quality agencies and private organizations on an annual basis to promote clean commuting during its Clean Commute Initiative. The program originally began as a week-long initiative, expanded in 2003 to a month-long program, and now covers events throughout multiple months during the “clean commuting season” from May to September. Through the Clean Commute Initiative, residents of the Baltimore region are asked to try an alternative to driving alone for at least one day during “clean commuting season.” In 2014, promotion began in early April, with a number of outreach events throughout the region. Events continued through May, and included Bike to Work Day on May 16th. Participation in Bike to Work Day has increased substantially in recent years and many local businesses and organizations donate prizes for registered participants. Bike to Work Day, a true region-wide initiative, featured rallies in Annapolis, Baltimore City, Baltimore County, Carroll County, Harford County, and Howard County.

The 2014 Clean Commute Initiative also featured a paid media campaign, sponsored by the BRTB, with radio spots running in April, May, and August. In addition, a web site, www.cleancommute.com, provided information about related events, Bike to Work Day, and other commuting issues. The site remains live year-round and is a one-stop-shop for clean commuting information in the Baltimore region. The site also highlights employers who promote clean commuting and hosts information on commuter tax benefits. It is expected that these types of activities will lead to ongoing use of alternative transportation choices.

In addition to the Clean Commute Initiative, BRTB, MDE, MDOT, MTA, and other organizations reach out to employers to encourage voluntary participation in alternate commute options such as telework, flexible work arrangements, and guaranteed ride home.

Clean Air Partners - Episodic Control Program

The Clean Air Partners program is a public/private partnership working to improve air quality in both the Baltimore and Washington regions by motivating individuals to take voluntary actions that reduce emissions. BMC, in cooperation with MDE, MDOT, MWCOG, and numerous other public and private sector entities, works with area employers to develop voluntary programs that both help reduce emissions and educate their employees about the health effects of air pollution. Each participating organization develops an Air Quality Awareness Plan. All plans have educational components, while ones that are more ambitious may include operational actions to reduce emissions, such as shutting down incinerators. Organizations put their plans into action on days of the year when air quality is expected to exceed the EPA health standards.

In FY 2014, Clean Air Partners conducted media campaigns in both the Baltimore and Washington markets, which included drive-time radio spots. Clean Air Partners staff members conducted press interviews in both Baltimore and Washington. The Partnership has worked hard to nurture a relationship with reporters in both markets. This effort has paid off with accurate and positive press coverage, raising awareness of both the problem and the Clean Air Partners organization.

Clean Air Partners produced updated educational materials including information on PM_{2.5} and climate change as well as ground-level ozone, improved its web site, www.cleanairpartners.net, and worked to upgrade the Air Quality Action Days Program, by providing training and better communication with the over 1400 participants in the Baltimore/Washington air shed. Clean Air Partners has also worked with MDE, MWCOG, and BMC on improving air quality forecasting, as well as the communication of those forecasts.

Clean Air Partners continues to be a sponsor of BMC's annual Clean Commute Initiative, which raises awareness of the relationship between transportation choices and air quality and promotes alternatives to single occupant vehicle-commuting.

Telework

The promotion of teleworking is a strategy to reduce traffic congestion and air pollution in the Baltimore region. Building on previous efforts at telework promotion in the region, ***Teleworkbaltimore.com*** was launched in December 2009. Through the program, employers in the region are directed to a branded web site where they are able to download all of the information and materials needed to launch telework programs within their organizations. In return for gaining access to the information, employers are asked to register with BMC for tracking purposes. In addition, registered businesses are able to ask questions. BMC assumes the primary role in responding to telework inquiries with the back-up assistance of a telework consultant retained by BMC. Registered participants also receive periodic updates on topics related to teleworking. BMC is responsible for surveying registered participants. The ***Teleworkbaltimore.com*** web site as well as seminars and webinars promoting the practice of

telework are advertised in regional business publications, such as the *Baltimore Business Journal* and *Smart CEO*.

Guaranteed Ride Home Program

In October 2010 the Washington D.C. metropolitan area Guaranteed Ride Home program was expanded to cover the Baltimore region, St. Mary's County, and Cecil County. This program, provided by Commuter Connections, MDOT, and MTA, provides a free ride home to commuters who carpool, vanpool, bike, walk or take transit to work at least twice a week. Those who register for this program can take advantage of it up to 4 times annually. It can be used for personal illness, sick children, or employer-mandated unscheduled overtime. MTA and local rideshare coordinators provide marketing for the Guaranteed Ride Home.

Reduced Fare Passes

Programs that reduce transit fares help to encourage greater usage of transit, thereby reducing pollution from private automobiles. One of these reduced transit fare programs is MTA's All Access College Transit Pass program. It reduces the cost of a regular monthly pass to \$39 for college students in certain enrolled schools, a savings of \$25 off the regular monthly pass cost. There are 22 schools in the Baltimore area currently enrolled. Additional information on this program can be found at mta.maryland.gov/youth-innovation-all-access-college-transit-pass.

Another reduced fare program from MTA is the Reduced Fare CharmCard®, available to seniors and persons with disabilities. For more information, visit www.mta.maryland.gov.

Car Sharing

Car sharing availability in the Baltimore region is centered on the Zipcar program in Baltimore City. Zipcar offers over 200 vehicles, including 104 vehicles in parking spots allocated through an agreement with the Parking Authority of Baltimore City. Zipcar has a considerable presence in Charles Village, Fells Point, Mt. Vernon and other Baltimore neighborhoods. The cars can be reserved online or over the phone. Studies show that when people have the ability to rent a car just for the few hours they need it, they are more likely to eliminate one or more of their cars, especially if they have access to transit and live in bikeable and walkable neighborhoods. In fact, a 2014 survey of Baltimore Zipcar members showed that the City's relationship with Zipcar has kept 3,000 personally-owned vehicles off Baltimore's streets.

Because of the efficiency of the shared car system, members drive fewer miles on average and emit fewer airborne pollutants. They also tend to take advantage of other cleaner forms of transportation such as walking, biking, and riding mass transit. In a survey conducted by Zipcar in Baltimore during 2014, nearly 38 percent of respondents stated that they either got rid of their car or decided not to purchase a vehicle as a result of the availability of Zipcar.

BICYCLE/PEDESTRIAN ACTIVITIES

In each jurisdiction, local efforts continue to accommodate bicyclists and pedestrians. The Maryland Department of Transportation also continues similar efforts. The following governmental agencies in the Baltimore region have created bicycle and pedestrian master plans. Through these master plans, agencies can work to develop this key part of a multi-modal transportation network.

Agency	Plan Name	Status
Maryland Department of Transportation	<i>Maryland Twenty-Year Bicycle and Pedestrian Master Plan</i>	Completed in 2014
City of Annapolis	<i>Annapolis Bike Plan</i>	Adopted in 2012
Baltimore City	<i>Bicycle Master Plan</i>	Adopted in 2015
Baltimore County	<i>Phase I: Eastern County Bicycle & Pedestrian Plan</i>	Adopted in 2006
	<i>Phase II: Western County Bicycle & Pedestrian Plan</i>	Adopted in 2012
	<i>Phase III: Rural County Pedestrian and Bicycle Access Plan</i>	Future phase
Anne Arundel County	<i>Pedestrian & Bicycle Functional Master Plan</i>	Completed in 2013
Carroll County	<i>Freedom Area Bicycle and Pedestrian Master Plan</i>	Completed in 2013
	<i>Bicycle-Pedestrian Master Plan</i>	In process of developing
Harford County	<i>Bicycle & Pedestrian Master Plan</i>	Adopted in 2013
Howard County	<i>Pedestrian Master Plan</i>	Completed in 2007; Draft update nearly complete
	<i>Bicycle Master Plan</i>	Draft completed in 2015

In Baltimore City, efforts to improve bicycle access in the City have increased bike use. Bicycle counts indicate a 50% increase in bicycle commuter traffic in the past four years.

As policy, MDOT includes bicycling and walking accommodations in all of its projects, wherever possible. Several programs were recently launched that direct additional funding to walking and biking. In 2012, the Maryland Bikeways program was launched. \$584,000 in projects that will benefit the Baltimore region were selected for 2016, the fourth year of Bikeways funding. The bikeways program will provide needed funding to implement the Statewide Trails Plan and the 20 Year Bicycle and Pedestrian Master Plan. It will provide missing links in the statewide trails and bikeways network by connecting and extending on-road and off-road bicycle facilities.



Figure 1: MARC Bike Car

MTA has had bicycle racks on all of its transit buses serving the Baltimore region since September 2008.

In addition, all MARC Penn Line weekend trains from Baltimore to Washington D.C. are now equipped with a bike car accommodating full size bicycles. (See Figure 1) This gives transportation users another option to driving solo as combining bicycling and transit use may provide a reasonable alternative to driving that may not be possible if considering only bicycling or transit as a travel option.

In *Maximize 2040*, the long-range transportation plan for the Baltimore region, 21 of the 46 projects add pedestrian and bicycle improvements to either roadways or to new or existing transit stations. The BRTB has set aside \$155 million for Complete Streets / bicycle-pedestrian projects.

The BMC, on behalf of the BRTB, promotes bicycling and walking through the following mechanisms:

- Informs members of the public on bicycling matters through periodic articles in COG Quarterly, a quarterly publication about BMC's work.
- Annual Bike to Work Day, a BMC-coordinated region-wide event with over 1,000 registrants. Bike to Work Day "rallies" or "pit stops" are held in each jurisdiction, with additional employer-based events.
- Baltimore Region Street Smart program - An education and enforcement campaign that promotes awareness of pedestrian and bicycle safety laws to both motorized and non-motorized travelers through media, visible street events, targeted police enforcement at high-profile pedestrian crossings, and direct door-to-door outreach in neighborhoods with high rates of pedestrian fatalities and injuries.

PARK-AND-RIDE PROGRAMS/LOTS

BMC completed the first comprehensive study of park-and-ride facilities in the Baltimore region in June 2002. This study quantified the utilization of the 105 lots throughout the region, and documented the travel behavior characteristics of lot users, including mode of travel as well as travel origins and destinations. The study also defined the service areas of individual lots. Information gathered in the study has permitted the BMC to more accurately estimate the emission reduction potential of existing and planned park-and-ride facilities. Information from this study has also been used to further quantify elements of the regional travel demand model, and to assist in planning future park-and-ride lots.

State/Federal-funded

The Maryland State Highway Administration (SHA) has assessed their park-and-ride facilities. Usage of SHA park-and-ride facilities in 2015 is estimated at 38 percent across the region. The most parking spaces are provided in Anne Arundel and Howard Counties, where usage is highest. The table below displays information on these lots from 2015. SHA estimates that over 47 million vehicle miles traveled (VMT) were reduced in 2015, resulting from use of their park-and-ride lots. SHA lots only account for a portion of park-and-ride lots in the region.

SHA Park-and-Ride Facilities 2015

County	Lots	Spaces	Percent Use
Anne Arundel	8	2,060	44
Baltimore	9	1,134	36
Carroll	7	453	23
Harford	12	1,214	40
Howard	8	1,857	50
Regional Total	44	6,718	38

In Anne Arundel County, the Davidsonville lot at US 50 and MD 424 expanded from 210 spaces to 463 spaces in 2015. Use percentages at the park and ride lots were lower than the previous year due to a drop in gasoline prices.

PUBLIC TRANSIT SERVICES

The Baltimore region is served by an array of bus and rail transportation services. This section addresses both bus and rail transportation in the Baltimore region.

Bus Transit

The MTA operates a far-reaching system of bus services:

- MTA bus service currently has 57 bus routes, which include 47 local routes, 4 limited stop routes (known as QuickBus), and 4 express bus routes which operate from various suburban locations to downtown Baltimore. The majority of these routes serve areas within the Baltimore beltway, connecting the region's suburbs to downtown and neighborhoods within the downtown area. Fourteen routes are feeders into Light Rail, Metro Subway, and MARC train stations.
- The size of MTA's bus fleet is approximately 706 buses, including 230 hybrid electric buses.
- Commuter bus service is provided on 35 lines. 30 operate throughout Central and Southern Maryland and 5 lines operate in the Baltimore region.
- The MTA operates two local shuttles within the Baltimore region: the Hampden Shuttle Bug and the Mondawmin Shuttle Bug.

In addition to the transit services operated by MTA, seven locally operated transit systems exist in the Baltimore region. Locally operated transit systems are funded through a combination of federal, state, and local dollars. MTA provides financial support for both capital and operating projects as well as technical support for these services.

These systems are shown below.

Service Name	Operated by	Service/ Service Area	Highlights
Annapolis Transit	Annapolis Department of Transportation	City of Annapolis and nearby portions of Anne Arundel County, including Parole, Edgewater, and Arnold	Bike racks, wheelchair accessible
Anne Arundel County LOTS program	Anne Arundel County Department of Aging and Disabilities	Van transportation for older adults and adults with disabilities	Also a taxi cab discount program available

Baltimore City Charm City Circulator	Baltimore City Department of Transportation	Four routes serving downtown Baltimore, including City Hall, Fells Point, Johns Hopkins, Penn Station, Federal Hill, Hollins Market, Harbor East, the Inner Harbor and Fort McHenry. The Harbor Connector is a free water taxi serving Maritime Park, Tide Point, Canton, Waterfront Park, Harbor view and Harbor East	Free service; hybrid electric buses; GPS bus tracking; (over 3.7M riders in 2016); the Harbor Connector offers free water taxi service to five points along the waterfront
Baltimore County CountyRide	Baltimore County Department of Aging	Destinations include medical appointments, shopping and other general purpose trips.	Serves Baltimore county residents that are elderly, disabled, or rural residents.
Carroll Area Transit System	Carroll Area Transit System	Four shuttles operate around the County, serving points of interest such as Westminster, South Carroll, Eldersburg, and Taneytown.	Demand-response service also provided.
Harford Transit	Harford County	Eight local routes link the primary towns and connect with Cecil County, the MARC commuter train, and MTA's commuter bus service to downtown Baltimore.	Demand-response service also provided.

RTA	Regional Transportation Agency (RTA)	Fifteen fixed routes serving Howard County, western Anne Arundel County, and northern Prince George's County.	RTA is the successor agency to Howard Transit and Central Maryland Regional Transit. RTA started service in July 2014.
The Link	BWI Business Partnership	One route connecting BWI Amtrak/MARC station and the BWI Business District light rail stop.	Operates free of charge and open to the public.

The Rabbit Express shuttle operated by Rabbit Transit out of York, Pennsylvania has the I-83 South route with multiple weekday roundtrip service from York to Towson, Maryland. It connects with MTA Light Rail and the Towson University Shuttle. The buses will stop at any marked MTA bus stop along the designated route for alighting passengers; however, all boarding locations must be pre-approved.

In addition to MTA bus service, local bus service, and Rabbit Express, there are private bus companies that offer intercity bus service to the region. The Greyhound bus station at 2110 Haines Street in the Carroll Camden Industrial Park provides a link between intercity and local public transportation. Additionally, the companies, MegaBus.com and Bolt Bus, provide intercity service from Baltimore to the New York City, with MegaBus.com offering service to additional cities in the Northeastern U.S. and Toronto.

To connect rural communities in Maryland, in January 2011 the Maryland Department of Transportation launched an Intercity Bus Program. The Western service operates from Grantsville to Baltimore via the Bay Runner Shuttle. The Central service operates from Elkton to Baltimore via Greyhound and the Eastern service operates from Ocean City to Baltimore via Greyhound.

Automatic Vehicle Location and Next Vehicle Arrival Technology

An automatic vehicle location (AVL) system, being implemented by MTA, will permit better management of transit operations and will assist in improving service. Dispatchers are able to detect the location of buses, monitor on-time performance, and direct service changes to make buses more responsive to changing local traffic conditions. MTA equipped 705 buses with AVL features. This equipment is also being installed on all new buses and light railcars purchased by MTA.

Beginning in late 2006, 200 variable electronic message signs were installed at MTA bus stops, using Next Vehicle Arrival technology. Using a global positioning system, this technology provides bus riders with the knowledge of when the next bus will arrive at a particular bus stop. This will

add to the overall experience of transit usage, and could possibly become an incentive for increased usage of transit in the Baltimore region.

Howard Transit has also added AVL technology to their fleet of buses to provide better quality service for Howard County's local bus system. It includes the capability for riders to view transit maps and vehicle movement through wireless internet hardware such as computers and palm pilots, and to receive related information on digital cellular phones with text messaging.

Rail Transit

Rail Transit in the Baltimore region is provided through MTA's Metro Subway, Central Light Rail, and Maryland Rail Commuter (MARC) service.

Metro Subway

MTA's Metro Subway system provides high-speed heavy rail transit service in a 15.5-mile corridor, with 14 stations from Owings Mills in western Baltimore County through downtown Baltimore to Johns Hopkins Hospital east of downtown. Connecting bus service is provided with MTA bus routes.

Light Rail

MTA's Central Light Rail Transit provides medium-speed transit service in a 30-mile north-south corridor from Baltimore County to Anne Arundel County. The main line runs between Hunt Valley and Glen Burnie with extensions to Penn Station north of downtown Baltimore and to Baltimore/Washington International Thurgood Marshall Airport in Anne Arundel County. Light Rail serves the area by linking communities in the northern and southern suburbs with the downtown core, and provides Baltimore City residents access to suburban job centers, such as those located at BWI Airport, the BWI Business District, and the Hunt Valley office park. Service runs every day of the week. There are 33 stations and free parking is provided at 12 of these stations.

All but 2.6 miles of the Light Rail are double-track, which makes service more reliable and increases ridership. The remaining 2.6 miles are single-track due to right-of-way issues. There are 10-minute headways through 75 percent of the system from Linthicum to Timonium during peak service (6 a.m. to 9 a.m. and 3 p.m. to 6 p.m.) and 15-minute headways during off-peak hours. The Penn Station-Camden Yards service operates on 20 minute peak and 30 minute base headways.

Maryland Rail Commuter (MARC)

MTA's MARC service provides high-speed, medium frequency commuter rail service in the Baltimore region and beyond. The 202-mile system is a commuting option for residents of Central

and Northeast Maryland, the Baltimore/Washington Corridor, and the Martinsburg, West Virginia/Washington corridor. In the Baltimore region, MARC trains operate in two existing rail corridors totaling 112 miles with stations in all jurisdictions except Carroll County. The Penn Line runs between Perryville in Cecil County and Union Station in Washington D.C., and stops at nine stations in the region. The Camden Line runs from Camden Station in Baltimore City to Union Station, and stops at six stations in the region.

MARC commuter rail services have been enhanced through construction activities at several locations throughout the region. In 2013, accessibility was greatly improved with the completion of a new Halethorpe MARC Station, located one quarter mile from the old station. This \$32 million project included high-level platforms and connecting pedestrian bridge with elevator/stair towers, stairs, ramps and concrete walkways. The park and ride lot was also expanded at this station to provide for approximately 1,100 parking spaces in total. This new station serves approximately 1,300 passengers each day.

Parking lot expansion at the Martin State Airport MARC station increased the number of parking spaces from 171 to 326. Lot expansion at the Aberdeen MARC Station, also on the Penn Line, increased from 188 to 215.

MANAGEMENT AND OPERATIONS PROJECTS

Management and operations projects improve the efficiency of the transportation system through the use of strategies, techniques, and tools.

Traffic Flow Improvements

Efforts are continuing by SHA to improve traffic flow, mitigate congestion, and reduce mobile source emissions in major travel corridors and at critical intersections throughout the region. These ongoing efforts include traffic signal retiming projects, roundabout construction, intersection reconstruction, park-and-ride facility construction, improved fixed message and variable message signage, and other traffic management projects implemented in conjunction with the CHART program.

The Coordinated Highways Action Response Team program, operated jointly by MDOT, SHA, MDTA, and Maryland State Police, focuses its operations on non-recurring congestion, such as crashes. The Statewide Operations Center, Authority Operations Center, and the two satellite Operations Centers in the region, survey the state's roadways to quickly identify incidents. CHART also includes traffic patrols, which now operate 24 hours 7 days per week on many of the state highways in the region; the patrols began operating during peak periods in the early 1990s.

CHART operations save tens of millions of vehicle-hours of delay statewide, millions of gallons of fuel statewide, and reduce overall mobile source emissions.

The mission of CHART is to “strive to improve mobility and safety for the users of Maryland’s highways through the application of intelligent transportation system technology and interagency teamwork.” Its goals are to: 1) improve highway safety and efficiency by rapidly detecting and responding to hazardous highway conditions using traffic and roadway monitoring strategies; 2) quickly and efficiently restore normal traffic flow after incidents using incident management strategies; 3) provide timely and reliable mobility information to the traveling public through its traveler information systems; 4) reduce congestion on highways by employing traffic management strategies; 5) expand the CHART operating system and communications network to support sharing of transportation information, and inter-modal and inter-agency coordination and connectivity; and 6) deploy emergency response equipment and establish coordinated preparedness and response plans for large-scale natural and man-made disasters to establish a secure and safe transportation system.

To achieve its mission and goals, CHART has installed various ITS technologies, such as closed circuit television cameras, dynamic message signs, traffic speed detectors, roadway weather information systems, and highway advisory radio on interstate highways in the Baltimore region and other parts of the state using a combination of federal and state funds. As noted above, CHART also provides roving rapid response teams (emergency traffic patrols) that provide assistance to disabled motorists, assist in clearing incidents from travel lanes, and reroute traffic around incidents. The state also has a 511 traveler information system (www.md511.org) to provide real-time transportation condition information to the public.

Electronic Toll Collection

The use of electronic toll collection technology enables vehicles to move faster through the tolling process, reducing delay at tollbooths, thereby reducing traffic congestion and air pollution emissions. The Maryland Transportation Authority commenced operation of its electronic toll collection system, M-TAG, at the Authority’s three harbor crossing facilities in 1999. By fall 2001, all toll facilities in the region were equipped with electronic toll collection equipment.

In 2001, MDTA joined the E-ZPass InterAgency Group, a coalition of 26 toll agencies in 15 states. At present, travelers in Maryland, as well as at most toll facilities in Delaware, Illinois, Indiana, Maine, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Virginia, and West Virginia can pay tolls using one electronic device.

In 2015, 82 percent of vehicles using all MDTA facilities paid using electronic toll tags. The table below shows the portion of vehicles that use E-ZPass in the Baltimore region.

Facility	Percent Using E-ZPass
I-95 Express Toll Lanes	90%
William Preston Lane Jr. Memorial (Bay) Bridge	79%
Baltimore Harbor Tunnel	81%

Fort McHenry Tunnel	81%
Francis Scott Key Bridge	85%
Thomas J. Hatem Memorial Bridge	95%
John F. Kennedy Memorial Highway	79%

Traffic Signal Retiming

SHA has a program to review and retime its signals statewide every three years, including its 1,200 signals in the Baltimore region. In addition, signals in high profile corridors or corridors subject to significant traffic pattern change are evaluated on a more frequent schedule. This program results in smoother traffic flow as well as reduced emissions resulting from idling vehicles. *Synchro* software is used to develop new timing plans and to calculate benefits from the new timing plans. In CY 2015, SHA reviewed 138 signals in 23 systems in the Baltimore region. Timing changes were made in 21 systems containing 103 signals. Delay was reduced by 527,000 hours and fuel consumption was reduced by 144,000 gallons. It is estimated that NOx, VOC, and CO emissions were reduced 0.5%, 0.9%, and 0.2% respectively for the signal systems.

Traffic Incident Management for the Baltimore Region Committee

Launched in September 2000, the Traffic Incident Management for the Baltimore Region Committee (formerly called the Baltimore Regional Operations Coordination Committee) has worked to improve coordination of incident management activities to reduce traffic congestion and delay, enhance the safety of responders and the traveling public, and improve the quality of the environment. Participants on the TIMBR Committee include police, fire, transportation and emergency management agencies from the jurisdictions, MDOT and its modal administrations, Maryland State Police, MDE, FHWA, and others. Since the inception of the TIMBR Committee, various projects have been undertaken to improve responder coordination, cooperation, and communication which leads to incidents being cleared more quickly and more safely.

PREFERENTIAL PARKING MANAGEMENT

Parking management is an important strategy for managing transportation demand and a complementary action to increase the effectiveness of the various rideshare programs. This strategy assumes several forms, with preferential parking management being the most basic.

Preferential parking for carpools/vanpools is a traditional ERS in the Baltimore region. Carpoolers receive the most desirable parking spaces, usually those nearest to the building or in protective garages.

CLEAN VEHICLES, FUELS AND TECHNOLOGIES

The Maryland Port Administration (MPA) is working to reduce emissions from the Port's diesel engines through a Green Port Initiative, which includes replacement of dray trucks. With the dray

truck replacement program, participating truck owners (either independent owner-operators or fleet owners) are provided with funding towards the purchase of a newer truck with an engine that meets more stringent emission standards. The Port's dray truck replacement program has been in place for several years. Recently 23 trucks were replaced with a \$750,000 EPA grant (completed in 2015). Additionally, 18 trucks were replaced so far with a combination of CMAQ funding, MPA, and MDOT/SHA funding in an ongoing project to replace 22 trucks. For the current Diesel Emission Reduction Act (DERA)-funded project, 25 trucks will be replaced with an EPA grant of \$870,000 awarded to the Maryland Environmental Service on behalf of MPA. This project will begin in spring 2016.

Planned Emission Reducing Projects

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Anne Arundel County	South Shore Trail - Phase II (Route 3 to Odenton)	This is a portion of a larger trail project which involves acquiring property, design and construction of a trail between Annapolis and Odenton on WB&A.
Anne Arundel County	Odenton Town Center Blvd.	Creation of a roadway and sidewalk from MD 175 through the MD 32 underpass to Town Center Blvd in Seven Oaks.
Anne Arundel County	Anne Arundel Community College B&A Connector	This project includes design, right-of-way acquisition and construction of a trail connection between Anne Arundel Community College (AACC) with the B&A Trail, near West Campus Drive
Anne Arundel County	Walkways, Roads & Parking Lots (Community College)	This project addresses the college's deteriorated walkways, roads, and parking lots. New walkways will address existing deteriorated areas and functional and ADA issues.
Anne Arundel County	Cape St. Claire Rd. Widening	Design and construct widening of road between Woodland Circle and Hilltop Dr., and provide sidewalks
Anne Arundel County	WB&A - West County Trail - Phase V	Design and construct a pedestrian bridge of the Patuxent River to connect the Prince George's and Anne Arundel County segments of the WB&A Trail. The project is a joint effort of MDOT and the 2 counties.
Anne Arundel County	Pasadena Road Improvements	Address impacts of East-West Boulevard traffic on Pasadena Road. This project will include sidewalks on the south side of the road, two median islands with associated road widening, a raised intersection at Penny Lane, and the relocation of the intersection at Spruce Lane to improve sight distance.
Anne Arundel County	Brock Bridge/ MD 198	This project will acquire right-of-way and relocate utilities to reconstruct the existing northbound lane along Brock Bridge Road at MD198 to create separate through lane and right turn lane, modify the signal, and improve drainage at the intersection with MD 198. This project also includes the construction of an ADA compliant sidewalk extending approx. 500 feet from 241 Brock Bridge Road connecting to the sidewalk being constructed as part of the above intersection improvements.
Anne Arundel County	Broadneck Peninsula Trail - Phase II	This is part of a larger project to develop a multi-use trail to connect Sandy Point State Park with B&A Trail. Phase II goes from Bay Dale to Green Holly.

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Baltimore City	Fulton Street Streetscape	A 0.75 mile pedestrian/bicycle loop circling US 40 between Calhoun and Fulton Streets, including greening and sidewalk improvements to the Fulton Street bridge.
Baltimore City	Midtown Streetscape/Traffic Improvements	Provide for a streetscape and functional improvements of Mt Royal Ave., with intersections improvements to include roadway rehabilitation, resurfacing, pedestrian and bicycle improvements, ADA ramps, traffic signal upgrades, and landscaping. Location: Mt Royal Ave from North Ave. to Guilford
Baltimore City	Greenmount Avenue Streetscape	Roadway resurfacing, new sidewalks, curb and gutters, ADA compliant ramps and driveways, replacement of signals and pedestrian signals for safety, aesthetics and foot traffic; Location: Greenmount Avenue 29th to 43rd.
Baltimore City	Belair Road Complete Streets	Planning and design for street, sidewalk, bike improvements and greening at key nodes on Belair Road, including Erdman Ave., Frankford Ave and Fleetwood.
Baltimore City	Roland Park Complete Streets	Pedestrian, bicycle and traffic calming safety improvements, resurfacing and aesthetic improvements on Roland Avenue from Coldspring Ln to Northern Pkwy and on Northern Pkwy from Roland Ave to Kemper Rd. Includes school access/egress improvements.
Baltimore City	Jones Falls Greenway Phase V: Cylburn to Mt Washington	Construct Phase V of the Jones Falls Greenway, a two-mile trail between Cylburn Arboretum and the neighborhood of Mt. Washington. The trail alignment will utilize neighborhood roads & dedicated bicycle paths along the Jones Falls Greenway.
Baltimore City	Highlandtown Complete Streets	Transit and streetscape improvements for three intersections on Eastern Ave. in Highlandtown (Highland Ave., SE Ave, Conkling St). Project will include bicycle parking to encourage transit ridership.
Baltimore City	Key Highway/ Inner Harbor Intersection	Install new ADA approved islands, pedestrian friendly crosswalks with stamped concrete, pedestrian lights and signage at the Light St/ Key Highway intersection. Extension of the Gwynns Falls Trail (approx. 1100 feet)
Baltimore County	Dundalk Heritage Trail and Park	Funds to construct a trail and park that will connect the center of historic Dundalk to Baltimore City and the waterfront.

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Carroll County	Westminster Community Trail - Phase III	Westminster Community Trail Phase III is a state project, with State Highway Administration providing 100% of construction costs, estimated at \$1.1M. Pedestrian walkway/bike trail is to be macadam from Hahn Road along Route 27 south to the MD Route 140 overpass. Included is a pre-engineered bridge to cross an existing drainage area.
Carroll County	Washington Road (MD 32) Sidewalk	Length: Approximately 2,160 feet Limits: Kate Wagner Road to Washington Lane This project provides planned funding for construction of sidewalks along Washington Road (MD 32) in Westminster. The project will provide a continuous sidewalk connection with the residential neighborhoods south of Westminster and the facilities of Westminster High School, Carroll Community College, Robert Moton Elementary School, and Carroll County YMCA.
Carroll County	Gillis Falls Trail - Phase I	This project provides planned funding to establish a 5,700 foot compacted stone pedestrian trail connecting Salt Box Park to Flag Marsh Road near the Equestrian Center. This section of trail will require a boardwalk in several areas and the installation of a pre-engineered bridge to cross the existing stream and to traverse the marshy areas.
Carroll County	MacBeth Trail Connection	Construction of an 850 linear foot asphalt trail between the eastern and western sections of MacBeth Way in Eldersburg. This trail project is a part of the larger overall Governor Brown Trail project that will connect Eldersburg with Sykesville and include connections to Springfield Hospital Center, the Warfield Business Complex, and Freedom Park.
Carroll County	Johnsville Road Sidewalk	This project provides funding for construction of a sidewalk along Johnsville Road in Freedom. The project will provide sidewalk connection to Eldersburg Elementary School, Liberty High School, residential neighborhoods, and the commercial corridor along MD 32 (Sykesville Road) via Bartholow Road.
Carroll County	Westminster Veterans Memorial Park	This project provides funding for the design, engineering, and construction of a 32-acre parcel in the Westminster area into a new active park. Design includes three multi-purpose fields, playground, pavilion, one-mile walking trail, and parking areas.

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Carroll County	Gillis Falls Trail II	This project provides planned funding to establish an 8,000 linear foot compacted stone pedestrian trail connecting Gillis Falls Road at Salt Box Park to Gillis Road. This section of trail will require a boardwalk in several areas and the installation of a pre-engineered bridge to cross the existing stream and to traverse the marshy areas.
Carroll County	Governor Brown Trail	The 7-mile macadam trail will link the Town of Sykesville to various destinations within the Freedom designated growth area, including Liberty Road (MD 26) corridor and Sykesville Road (MD 32) corridor.
Carroll County	Little Pipe Creek Trail	This project provides planned funding for the development of a 10-foot wide, 4 mile macadam trail along MD Rte 75 corridor for walking, biking and in-line skating. From Union Bridge to New Windsor.
Harford County	Abingdon Road (Box Hill S. Pkwy - I 95)	Abingdon Rd. between Box Hill South Pkwy and I-95 is to be improved to adequately handle existing and projected traffic loads. The road will be widened with turn lanes and sidewalk installed. The section of road from MD 924 to Box Hill S. Pkwy is completed. The remaining sections are scheduled for outyears.
Howard County	Port Capital Sidewalks	A project for the construction of approximately 1,200 LF of sidewalk along Port Capital Drive from US1 to New Colony Boulevard.
Howard County	US 1 Corridor Revitalization	Plan, design, and implement a series of streetscape, pedestrian, bicycle, transportation and public green space improvements.
Howard County	Guilford Rd Pedestrian/Bike Improvements	Project to design and construct a sidewalk on one or both sides of Guilford road between Oakland Mills Road and US1. Significant pedestrian and bicycle activity has been observed on Guilford Road.
Howard County	Clarksville - River Hill Streetscape Improvements	A project to plan, design and construct road and related improvements -- including streetscape, storm water management, pedestrian, bicycle, and public space enhancements -- in the Route 108 corridor.
Howard County	Oakland Mills Rd. South - Walkway/Bikeway	Project to construct pedestrian/bicycle improvements along Oakland Mills Road (south) from Snowden River Pkwy to Guilford Rd.
Howard County	Community Road Revitalization	A project to upgrade streets, curbs and sidewalks in established neighborhoods.

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Howard County	Sanner Road Improvements	Project providing bicycle compatibility by widening the existing 10 feet lanes to 12 feet and filling in the missing shoulders along both sides of the road.
Howard County	Downtown Columbia Patuxent Branch Trail Extension	Project connecting Downtown Columbia at Lake Kittamaquundi and extending to the existing Patuxent Branch Trail. This project would provide a car-free connection to Downtown Columbia to Savage and will connect to the planned east-west Hospital to Blandair Park multi-use pathway.
Howard County	Mission Road Sidewalk	A project to install sidewalk along parts of Mission Road. Area 1 will install sidewalk from Pleasant Chase Road to the Ridgley's Run Community Center. Area 2 will address Mission Road from Guilford Road to Concord Drive.
Howard County	Oakland Mills Road Improvements	Project improving Oakland Mills Road from Guilford Road northward to Carters Lane. The improvements would include road widening, sidewalk, curb and gutter and bicycle compatibility.
Howard County	Ellicott City Improvements and Enhancements	Project to provide a variety of repairs and improvements to public infrastructure and address other community needs to improve the downtown and historic district.
Howard County	Doncaster Drive Sidewalk	A project to construct approximately 1200 LF of sidewalk along Doncaster Drive from Roundhill Road to Hale Haven Road.
Howard County	North Laurel Road Sidewalk	Design and construction of a sidewalk along the southwest side of North Laurel Road from Linville Ave. to US1.
Howard County	FY 2009 Pathway and Trail Rehab and Expansion	Rehabilitate and expand the existing Pathway System which currently extends from Savage Park through Columbia to Dorsey's Search. Project includes an evaluation and possible improvements to the Route 29 Pedestrian Bridge and its approaches and connections to the County's borders.
Howard County	Tower Drive Drainage and Sidewalks	A project to design and construct improved drainage and sidewalks along Tower Drive.
Howard County	Elkridge Main Street Improvements	Project replacing the curb, gutter, and sidewalks along Main Street from Old Washington Road to Brumbaugh Street in Elkridge.

Project Type: *Clean Technology*

Implementing Agency ***Project Name*** ***Project Description***

MDOT MTA Buses - FY 16/17 172 clean diesel buses will be purchased in FY 16/17.

Project Type: *Congestion Management*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Harford County	Bata Blvd. Access Road	Project constructing an access road from MD 543 directly to Bata Blvd. The project will relieve existing and anticipated delays and will be multi-modal in that bicycle lanes and pedestrian access will be considered where possible and appropriate.
Howard County	Brighton Dam Road at Highland Road Roundabout	Project designing and constructing a roundabout at the intersection of Brighton Dam Road and Highland Road. The current intersection is a four way stop.

Project Type: *ITS*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Howard County	Signalization Program	Project designing and constructing various traffic signals when the MUTCD Warrants are met; also includes the modification and modernization of existing traffic signals.

Project Type: *Land Use*

Implementing Agency ***Project Name*** ***Project Description***

Anne Arundel County	Odenton Grid Streets	This Project is to design, acquire rights-of-way, and construct roadways, pedestrian and bicycle facilities, and street scape improvements to grid streets within the Odenton Town Center area. Improvements are to be in keeping with Transportation Study for the Odenton Town Center Master Plan. Roadway improvements will create a safe pedestrian environment necessary to support town center development.
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Project Type: *Public Transit Improvement*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Baltimore City	Cherry Hill Light Rail Station-Area Improvement	Enhance the Cherry Hill Light Rail Station to encourage increased transit ridership. Build an expanded bus drop-off and waiting area adjacent to the station entrance. Construct an upgraded station plaza and pedestrian and bicycle infrastructure improvements such as: full bike lanes on Cherry Hill Road, ADA ramp upgrades, and sidewalk network repairs.
MDOT	Replacement of Fare Collection Equipment	Replace existing fare collection equipment on bus, light rail, and metro subway.

Ongoing Emission Reducing Projects

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Anne Arundel County	Masonry Reconstruction	Funds are requested for the design and complete replacement of curb and gutter and sidewalks which are not ADA compliant or no longer function due to deterioration or resurfacing of roads. The sidewalk, curb, and gutter are beyond repair. This project also includes the milling, patching, and resurfacing of the road as determined by a preliminary engineering study.
Anne Arundel County	Replace Deteriorated Walkways	Many exterior walkways and steps are cracked, spalling, lifting, and in general, pose safety and liability risks. This project will replace aging blacktop and concrete structures and stairways with new concrete.
Anne Arundel County	School Sidewalks	Funds are needed to provide sidewalk improvements to accommodate walkers, and reduce bus requirement.
Anne Arundel County	Sidewalk/ Bikeway Fund	This project includes design and construction of needed sidewalk/bikeway links along County roadways.
Baltimore County	Street Rehabilitation (Countywide)	Among other things, this project provides for regrading, repaving, draining and widening of existing county streets where residents have petitioned for widening, sidewalks, curbs and gutters.
Baltimore County	Curbs, gutters and sidewalks	Replacement and repair of deteriorated curbs, gutters and sidewalks as well as construction of new sidewalks where needed.
Baltimore County	Sidewalk Ramps Program	This project provides funds to construct sidewalk ramps to assist the handicapped.
Baltimore County	Recreation Facility Renovations	Capital improvements and/or capital renovations to existing parks and facilities including comfort stations, plantings, benches, pavilions, lighting, sidewalks, fountains, etc.
Baltimore County	Greenways/Stream Valleys/Trails Dev.	Acquisition and development of stream valley parks and greenways, including develop rec trails county wide, Turner Station Park)

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Baltimore County	Countywide Revitalization	Acquisition, demolition, renov., repair, maint., development or redevelopment of res. or comm. properties to foster community open space, recreation, public infrastructure and improvements, economic devel., streetscapes, and community revitalization.
Baltimore County	Waterfront Enhancement	New development and/or capital renovation of water-related facilities at waterfront parks including boat ramps, fishing piers, bulkheads, parking, and trails.
Baltimore County	Regional Park Development	Development of indoor and outdoor regional park facilities throughout the county. Amenities include athletic fields, comfort stations, trails, etc.
Harford County	Paving - Overlay and Maintenance	Funding to provide bituminous concrete overlay, patching and re-striping on existing driveways and parking lots. Associated work on curbs, sidewalks and inlets as required.
Harford County	Sidewalks and Handicapped Ramps	Project to construct sidewalks to interconnect communities, schools, and commercial areas. The project will benefit air quality by encouraging local walking trips and will improve safety by separating pedestrians and motor vehicles.
Howard County	Sidewalk Repair Program	This project is for the repair of deteriorated sidewalks and driveway aprons that are in public rights-of-way.
Howard County	School Route Pathways or Sidewalks	Installation of sidewalks/pathways to provide safe walking route for school children. Sites next in priority to be evaluated are: Old Frederick Rd., Montgomery Rd.; Crescent Rd. Project continues K-5024.
Howard County	Routine Sidewalk and Walkway Extensions	A project to design and construct routine sidewalk and walkway extensions about 1,000 feet in length.
Howard County	Sidewalk Retrofit Program	Project to construct improved pedestrian access facilities along State roads. Grant funds available through State Retrofit Sidewalk Program.
Howard County	Roadside Improvement Program	This project is to repair, replace, or install sidewalks and ramps for handicapped areas, curbs, trees, and guardrails to comply with applicable Federal, State and County codes.

Project Type: *Bike/Ped/Greenway*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Howard County	School Crosswalk Improvements	This project is for the installation or modification of crosswalks, raised crosswalks, chokers, sidewalks, raised shoulders, signs and/or other roadway retrofits to provide for an enhanced walking route for school children.
Howard County	FY 2007 Pedestrian Plan Projects	Ongoing evaluation, design and construction of pedestrian improvements listed in the Howard County Pedestrian Master Plan. The candidate project list is updated annually by the Dept. of Planning and Zoning in coordination with the Dept. of Public Works.
Howard County	Cedar Villa Heights Sidewalks	A project for the design and construction of sidewalk and curb and gutter along neighborhood roads.
Howard County	Junction Industrial Park Sidewalks	A project for the design and construction of approximately 4,000 LF of walkways to serve the business community.
Howard County	FY 2009 State Roads Sidewalk Retrofit Program	Design and construct improved pedestrian access along State roads.
Howard County	Community Renewal / Enhancements	A project to design and implement a series of pedestrian improvements, streetscape enhancements and repair or enhancement of public green spaces.
Howard County	US 40 Corridor Enhancement	A project to plan, design and implement improvements (eg sidewalks, landscaping, street trees, median and gateway enhancements) within public right-of-way and to develop a corridor design manual to guide site design on adjacent properties.

Project Type: *Commute Alternatives Incentive*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
MDOT	Commuter Choice Tax Benefit Program	Conduct marketing efforts to promote use of state and federal commuter choice tax benefits.
MDOT	Telework Partnership with Employers/ Telework Baltimore	Baltimore region program to market the development of teleworking programs to employers.

Project Type: *Congestion Management*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Anne Arundel County	Neighborhood Traffic Control	Funds are requested to construct various traffic calming devices on neighborhood streets in order to control traffic speeds.
Baltimore County	Community Conservation Rd. Improvements	This project provides the funds to implement community conservation roadway improvement efforts throughout the county.
Baltimore County	Traffic Calming	This project will support a traffic calming program countywide in response to concerns from various communities.
Harford County	Traffic Calming, Bicycle and Road Safety Improvements	Project to construct various "traffic calming" devices aimed at speed reduction, community beautification, and increased safety. Funds are also being provided for bicycle and automobile related safety improvements.
Howard County	Residential Traffic Calming	Project to construct geometric roadway changes to reduce traffic speeding in residential areas.

Project Type: *ITS*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Anne Arundel County	New Traffic Signals	This project will fund the construction of new traffic control equipment on County roadways. This project also includes the construction of new Intelligent Transportation Systems (ITS) such as video detection and monitoring, automated count stations and communication systems to coordinate signals.
MDOT	CHART - (Ongoing Listing)	Focuses on non-recurring congestion includes traffic patrols, video traffic management, variable message signs, permanent congestion monitoring systems and rapid response team.

Project Type: *Outreach/Education*

***Implementing
Agency***

Project Name

Project Description

MDOT

Clean Air Partners

A public/private consortium that carries out a public education campaign in the Baltimore and Washington, D.C. regions, to encourage individuals and employers to take voluntary actions to reduce air emissions and protect their health from air pollution. The campaign involves an Air Quality Action Days component.

Project Type: *Public Transit Improvement*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Anne Arundel County	School Bus Replacement (Anne Arundel County)	Purchase of replacement school buses.
MDOT	State Worker Free Transit Program	Provide free service to state employees for MTA bus, light rail, some commuter buses, and Metro subway systems.
MDOT	MARC Coaches - Overhauls and Replacement	Overhaul MARC coaches in accordance with "10-year minor" and "20-year mid-life" schedules
MDOT	MTA All Access College Transit Pass Program	Reduced transit pass for area college students.

Implemented Emission Reducing Projects

Project Type: *Bike/Ped/Greenway*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Anne Arundel County	Bay Head Park	Redevelopment of the 24 acre former US Navy Broadneck Nike Site, acquired under the Federal Lands to Parks Program, as a community park. The site will be reconstructed to include athletic fields, trail facilities and a meeting and performance arts center. Phase I: demolition and removal. Phase II: construction of park facilities.
Anne Arundel County	Freetown Rd. Sidewalk	This project provides sidewalks along Freetown Rd. and Spencer Rd. in the Freetown Community. Phase I is a sidewalk along Freetown Rd. from Freetown Park to Solley. Rd. Phase II is a sidewalk along Spencer Rd. from Freetown Rd. to Pine Way. Phase III is a sidewalk along Spencer Rd. from Howard Manor Dr. to Lincoln Dr.
Anne Arundel County	Kinder Park Development	This project authorizes the preparation of a master plan and the design and construction of Kinder Farm Park. The master plan calls for trails, among other items. (2.2 mile trail)
Anne Arundel County	Broadneck Peninsula Trail - Phase IA	This is part of a larger project to develop a multi-use trail to connect Bay Bridge and Sandy Point State Park with B&A Trail. Phase IA goes from Green Holly to Old Cape St. Claire.
Anne Arundel County	Ridge/Teague Rds RTL	This project will provide for increased capacity and operational efficiency along Ridge Road at its intersection with Teague Road. This project will also complete sidewalk along Ridge Chapel Rd to Harmans Elementary Rd.
Anne Arundel County	WB&A - West County Trail - Phase III	Construct new paved, multi-use trail from Conway Road to Patuxent River.
Baltimore City	Jones Falls Trail - Phase II	Creation of bike/ped trail from the Penn Station area south to the Maryland Science Center at the Inner Harbor.
Baltimore City	Jones Falls Trail - Phase IV	Phase IV of the Jones Falls Trail will extend the trail 1.5 miles north to the Coldspring Lane Light Rail Station along the stream. Location: Woodberry Light Rail Station to Coldspring Lane Light Rail
Baltimore County	Robert E. Lee Park - Bridge Replacement	The bridge that crosses the Jones Falls to provide access to Robert E. Lee Park is severely decayed and is to be completely replaced.

Project Type: *Bike/Ped/Greenway*

Implementing Agency	Project Name	Project Description
Carroll County	Landon C. Burns Connector Trail Development	Develop a 6-foot wide macadam trail which will extend from an existing concrete sidewalk (at Bishop Street) to Landon C. Burns Park. This sidewalk/walking trail will allow for an alternate means of transportation from downtown Westminster to visit the Ag Center, Landon C. Burns Park, and the Farm Museum.
Harford County	Vale Road	Vale Road (from just west of MD 924 to Grafton Shop Rd.) is to be improved to accommodate future traffic volumes, bicycles and pedestrian traffic. The upgrade will extend from appr. MD 924 to Ipswich Dr.
Harford County	Bel Air Area Transportation Study	Project performing a traffic and safety analysis on MD 22, US 1 (Business) and MD 24 between MD 543 and Tollgate Road to the east/west and MacPhail Road to US 1 Bypass to the north/south. The study will include an existing conditions analysis, a no-build analysis, and a future conditions analysis based on several scenarios designated to address improved vehicular mobility and safety, improved transit, bicycle and pedestrian facilities along the corridors including the ability and benefits of providing dedicated bicycle lanes and sidewalks. The study will assess Complete Streets and include a roadway safety audit and an origin/destination report.
Harford County	Site and Parking Lot Improvements (Harford Comm. College)	Replacement, installation, and/or repair of campus parking lots, roadways, and sidewalks.
Howard County	MD 216 Pedestrian Facility	A project to construct roadside improvements along MD 216 between Lime Kiln Rd. and the Howard County Safety complex.
Howard County	Robert Fulton Sidewalks	A project to construct approximately 4,000 LF of sidewalk along Robert Fulton Drive from Solar Walk Way to Columbia Gateway Drive.
Howard County	Hunt Club Sidewalk	Construction of approximately 4,000 LF of sidewalk along Hunt Club Rd. from US 1 to Bauman Dr.
Howard County	St. John's Lane Sidewalk	Project to construct sidewalk and pathway improvements along St. Johns Lane to link Mt. Hebron High School to US 40.

Project Type: *Clean Technology*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Baltimore County	Electric Vehicle Charging Stations - Baltimore County Revenue Authority	The Baltimore County Revenue Authority has installed eight electric vehicle (EV) plug-in charging stations in Towson, two in each of the County parking garages. The four parking garages now equipped with charging stations are located at the following addresses in Towson: 100 West Susquehanna Ave., 110 West Susquehanna Ave., 115 Towsontown Blvd., 108 Ware Ave.
Harford County	Harford County School Bus Replacement - FY 10 and FY 12	Replacement of school buses (6 in FY 10, 4 in FY 12)
Howard County	Local Bus Replacement - Howard County Hybrids	This includes three hybrid diesel electric buses, to replace buses in the Howard County transit fleet.
Howard County	Howard County Hybrid Buses	This includes 11 hybrid-electric replacement buses for the Howard Transit fleet. (Three included in another entry.)
MDOT	Bus Procurement (ARRA) - Item 1	Annual purchase of clean diesel hybrid electric buses to replace those that have been in service for 12 or more years. (41 in 2010/2011)
MDOT	Bus Procurement (ARRA) - Item 2	Annual purchase of clean diesel hybrid electric buses to replace those that have been in service for 12 or more years. (69 in mid-2011 to early 2012)
MDOT	MTA Hybrid Buses - FY 2013	57 new hybrid buses were put into service in the MTA fleet in FY 2013.
MDOT	MTA Hybrid Buses - FY 2014	50 new hybrid buses were put into service in the MTA fleet in FY 2014.
MDOT	MTA Hybrid Buses - FY 2015	41 hybrid buses were put into service in the MTA fleet in FY 2015.

Project Type: *Commute Alternatives Incentive*

Implementing Agency	Project Name	Project Description
MDOT	Baltimore Region Rideshare Program - (Anne Arundel County)	Provides funding support to local rideshare coordinators to strengthen ridematching and ridesharing coordination services to both commuters and employers (Because of its ongoing status, credit is included in the "programmed" section of the results table.)
MDOT	Baltimore Region Rideshare Program -	Provides funding support to local rideshare coordinators to strengthen ridematching and ridesharing coordination services to both commuters and employers (Because of its ongoing status, credit is included in the "programmed" section of the results table.)
MDOT	Baltimore Region Rideshare Program - (Baltimore County)	Provides funding support to local rideshare coordinators to strengthen ridematching and ridesharing coordination services to both commuters and employers (Because of its ongoing status, credit is included in the "programmed" section of the results table.)
MDOT	Baltimore Region Rideshare Program -	Provides funding support to local rideshare coordinators to strengthen ridematching and ridesharing coordination services to both commuters and employers (Because of its ongoing status, credit is included in the "programmed" section of the results table.)
MDOT	Baltimore Region Rideshare Program -	Provides funding support to local rideshare coordinators to strengthen ridematching and ridesharing coordination services to both commuters and employers (Because of its ongoing status, credit is included in the "programmed" section of the results table.)
MDOT	Baltimore Region Rideshare Program -	Provides funding support to local rideshare coordinators to strengthen ridematching and ridesharing coordination services to both commuters and employers (Because of its ongoing status, credit is included in the "programmed" section of the results table.)
MDOT	MARC Halethorpe Station Improvements	Phase I of the project provided an additional 428 surface parking spaces at the Halethorpe MARC Station. Phase II includes installation of high level platforms, a pedestrian bridge, new shelters, lighting, landscaping and improved ADA access.

Project Type: *Congestion Management*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Harford County	MacPhail Road/Tollgate Road Roundabout	A new roundabout at the intersection of MacPhail Road and Tollgate Road on the southwest edge of Bel Air.
Harford County	Trimble Road/Fort Hoyle Road Roundabout	This project is a roundabout at the intersection of Trimble Road and Fort Hoyle Road.

Project Type: *ITS*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
MDOT	Signal Systemization - MD 22	John Carroll High School to MD 543
MDOT	Signal Systemization - MD 151	Wise Avenue to Trappe Road

Project Type: *Land Use*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Baltimore County	Owings Mills Transit Center	Build a town center that includes a square, main street, road and path network, hotel, library, education center. (Funding for infrastructure and parking needs at the Owings Mills Transit Center.)

Project Type: *Public Transit Improvement*

<i>Implementing Agency</i>	<i>Project Name</i>	<i>Project Description</i>
Howard County	Transit Operation Repair Facility	A project for site selection, acquisition, design and construction of a multi-jurisdictional transit facility.

Appendix J: MDOT Revenue Projections

Financially Constrained Long Range Plan

Year 2010 to 2040 Update

For The

Baltimore Metropolitan Area

Prepared by

Maryland Department of Transportation

August 2013

(Extended to 2040 July 2014)

DOCUMENTATION OF ASSUMPTIONS

Date: August 2013 (Extended to 2040 July 2014)

Subject: Methodology and Assumptions used to derive the 2013 - 2040 Constrained Long-range Transportation Plan.

Total Program Revenues/Expenditures (Operating and Capital):

- FY 1981 to FY 2012 figures are actual expenditures from historical records. FY 2013 to FY 2018 figures are from the FY 2013 Trust Fund Forecast and Consolidated Transportation Plan (CTP).
- The federal funds received directly by WMATA are **not** included in this exercise.
- FY 2019 to FY 2040 projections of state funds use a historical annual average growth rate of 3.89%. A regression model was used to determine the appropriate starting point in FY 2019. Federal fund projections for the same period are based on an average growth rate of 2.75% for Highway and 4.7% for Transit program funds, but also assume an O. A. of 90%.

Operating Expenditures:

- FY 1981 to FY 2012 are actual expenditures from historical records. Expenditures for FY 2013 to FY 2018 are operating budget projections contained in the FY 2013 Trust Fund Forecast.
- FY 2019 to FY 2040 projections are derived by inflating the previous year with an estimate for the percentage change in CPI-U plus 2%. The Consumer Price Index is a generally accepted measure of inflation. The projected annual change in index figures is based on information received from two econometric firms, Global Insight and Moody's Analytics. A blended average of the forecasts received from the two firms is used. Two percent (2%) is added to the forecasted rate to account for the additional operating costs associated with new capital expansions. The size of this additional factor is decided based on testing to determine what amount, when added to CPI, best approximates the historical trend in operating expenditures.

Capital - Systems Preservation:

- Department records were used to determine the split between systems preservation and expansion for FY 1981 to FY 2012. FY 2013 to FY 2018

represents the current version of the capital program adjusted for the revenue increase passed during the 2013 legislative session.

- An annual growth rate of 2.2% is assumed for systems preservation for the FY 2019 – FY 2040 period. This growth rate is based on a regression analysis of historical system preservation expenditures.

Capital - Expansion:

- Expenditures for capital expansion were derived by subtracting both operating and systems preservation expenditures from the total program expenditures for each year.

Baltimore Area - Percentage of Capital Expansion:

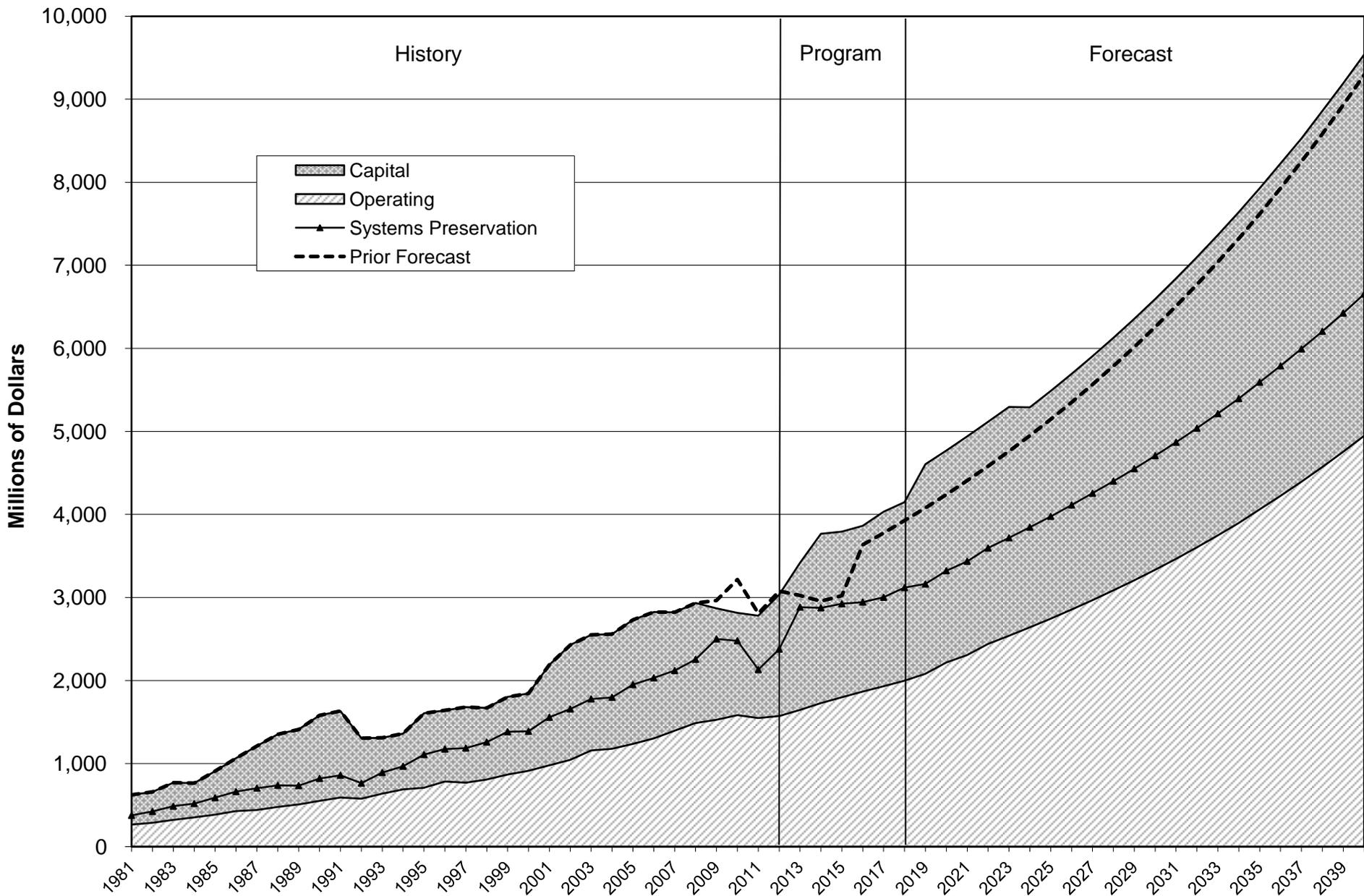
- Total capital figures from FY 1981 to Present were split into surface and non-surface. Surface included highway (SHA) and transit (MTA, MARC, & WMAT) costs. Non-surface included port, aviation, and motor vehicle administrations plus the Secretary's Office expenses.
- The surface / non-surface data and the system preservation / expansion data were combined, analyzed, and evaluated to produce estimates of the percentage of Maryland expansion associated with surface transportation for the various time periods.
- Surface capital in the Baltimore Region was derived by adding the expenditures for all of MTA (excluding LOTS and non-Baltimore region Park and Ride expenditures), one-half of MARC and that portion of SHA that pertained to the region (Anne Arundel, Baltimore, Carroll, Harford, and Howard counties).
- These Baltimore specific figures were used to derive estimates of Baltimore surface expansion. These figures, when used with the above-mentioned projections, produce the estimates shown for Baltimore as a percent of Total Surface Expansion.

MDOT Operating & Capital Expenditures - Statewide
History, Program & Forecast
(Millions of Dollars)

Fiscal Year	Operating	Systems Preservation	Operating & Systems Pres.	Expansion	Statewide Total
1981	265	111	376	247	623
1982	287	136	423	236	659
1983	322	164	486	284	770
1984	352	167	519	246	765
1985	385	204	589	319	908
1986	428	234	662	403	1,065
1987	441	264	705	506	1,211
1988	478	260	738	615	1,353
1989	508	227	735	677	1,412
1990	551	270	821	760	1,581
1991	591	268	859	773	1,632
1992	577	187	764	542	1,306
1993	638	254	892	418	1,310
1994	689	279	968	393	1,361
1995	709	400	1,109	497	1,606
1996	784	391	1,175	465	1,640
1997	770	417	1,187	493	1,680
1998	808	451	1,259	411	1,670
1999	868	515	1,383	420	1,803
2000	913	476	1,389	455	1,844
2001	979	578	1,557	632	2,189
2002	1,045	612	1,657	772	2,429
2003	1,158	620	1,778	772	2,550
2004	1,178	619	1,797	762	2,559
2005	1,237	714	1,951	780	2,731
2006	1,303	729	2,032	793	2,825
2007	1,396	724	2,120	701	2,821
2008	1,488	766	2,254	680	2,934
2009	1,527	974	2,501	368	2,869
2010	1,583	896	2,479	336	2,815
2011	1,548	583	2,131	650	2,781
2012	1,572	806	2,378	656	3,034
2013	1,646	1,238	2,884	534	3,418
2014	1,728	1,148	2,876	891	3,767
2015	1,798	1,126	2,924	869	3,793
2016	1,867	1,078	2,945	918	3,863
2017	1,931	1,071	3,002	1,031	4,033
2018	1,998	1,121	3,119	1,029	4,148
2019	2,081	1,081	3,162	1,443	4,605
2020	2,217	1,105	3,322	1,447	4,769
2021	2,307	1,129	3,436	1,504	4,940
2022	2,441	1,154	3,595	1,521	5,116
2023	2,539	1,179	3,718	1,576	5,294
2024	2,641	1,205	3,846	1,444	5,290
2025	2,745	1,232	3,977	1,510	5,487
2026	2,855	1,259	4,114	1,579	5,693
2027	2,968	1,287	4,255	1,651	5,906
2028	3,086	1,315	4,401	1,726	6,127
2029	3,207	1,344	4,551	1,805	6,356
2030	3,334	1,373	4,707	1,887	6,594
2031	3,465	1,404	4,869	1,973	6,842
2032	3,604	1,434	5,038	2,061	7,099
2033	3,748	1,466	5,214	2,151	7,365
2034	3,897	1,498	5,395	2,246	7,641
2035	4,061	1,531	5,592	2,336	7,928
2036	4,224	1,565	5,789	2,438	8,227
2037	4,394	1,599	5,993	2,534	8,527
2038	4,571	1,635	6,206	2,652	8,858
2039	4,755	1,670	6,425	2,767	9,192
2040	4,947	1,707	6,654	2,884	9,538

MDOT Operating & Capital Expenditures - Statewide

History, Program & Forecast



BALTIMORE METROPOLITAN AREA Percentage of Capital Expansion

Surface Enhancement % of Maryland Enhancement:	
1981 - 2012	87.7%

Baltimore Enhancement % of Surface Enhancement:	
1981 - 2012	41.6%



Fiscal Year	Statewide Expansion Funds	Surface Percentage	Private Funds	Total Surface Available	Baltimore Percentage	Baltimore New Starts	Total Balto. Expansion Funds
2010	336						192
2011	650						173
2012	656						229
2013	534						231
2014	891						426
2015	869						250
2016	918						231
2017	1,031						284
2018	1,029						576
2019	1,433	1,257	23	1,280	533	100	633
2020	1,447	1,269	23	1,292	538	100	638
2021	1,504	1,319	23	1,342	559	100	659
2022	1,521	1,334	23	1,357	565	100	665
2023	1,576	1,382	23	1,405	585	97	682
2024	1,444	1,266	24	1,290	537	0	537
2025	1,510	1,324	24	1,348	561	0	561
2026	1,579	1,385	24	1,409	587	0	587
2027	1,651	1,448	24	1,472	613	0	613
2028	1,726	1,514	24	1,538	640	0	640
2029	1,805	1,583	25	1,608	670	0	670
2030	1,887	1,654	25	1,679	699	0	699
2031	1,973	1,730	25	1,755	731	0	731
2032	2,061	1,807	25	1,832	763	0	763
2033	2,151	1,886	25	1,911	796	0	796
2034	2,246	1,969	26	1,995	831	0	831
2035	2,336	2,048	26	2,074	864	0	864
2036	2,438	2,138	26	2,164	901	0	901
2037	2,534	2,222	26	2,248	936	0	936
2038	2,652	2,326	26	2,352	979	0	979
2039	2,767	2,426	27	2,453	1,021	0	1,021
2040	2,884	2,529	27	2,556	1,064	0	1,064
Total 19-40	29,850	26,175	412	26,587	11,072	497	16,470
Total 10-40	36,764						19,062

BALTIMORE METROPOLITAN AREA Percentage of Capital Expansion

Surface Enhancement % of Maryland Enhancement:	
1981 - 2012	87.7%

Baltimore Enhancement % of Surface Enhancement:	
1981 - 2012	41.6%



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2021	1,504	1,319	23	1,342	559	0	559
2022	1,521	1,334	23	1,357	565	0	565
2023	1,576	1,382	23	1,405	585	0	585
2024	1,444	1,266	24	1,290	537	0	537
2025	1,510	1,324	24	1,348	561	0	561
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2033	2,151	1,886	25	1,911	796	0	796
2034	2,246	1,969	26	1,995	831	0	831
2035	2,336	2,048	26	2,074	864	0	864
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2037	2,534	2,222	26	2,248	936	0	936
2038	2,652	2,326	26	2,352	979	0	979
2039	2,767	2,426	27	2,453	1,021	0	1,021
2040	2,884	2,529	27	2,556	1,064	0	1,064
Total 19-40	29,850	26,175	412	26,587	11,072	0	15,973
Total 10-40	36,764						18,565