

Amendment to *Maximize2040: A
Performance-Based Transportation Plan* and
the *Amended 2016-2019 Transportation
Improvement Program* with an
Air Quality Conformity Determination

MD 32: MD 108 to Linden Church Road



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**Amendment to Maximize2040 and the Amended 2016-2019
Transportation Improvement Program with an Air Quality Conformity Determination**

This document describes a proposed amendment to *Maximize2040: A Performance-Based Transportation Plan*, approved in November 2015, and to the *Amended 2016-2019 Transportation Improvement Program (TIP)*.

AMENDING MAXIMIZE2040 TO UPDATE THE YEAR OF OPERATION FOR MD 32: MD 108 TO LINDEN CHURCH RD FROM 2030 TO 2020

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 2020.

The project limits for the entire MD 32 project are from MD 108 to I-70. This amendment advances the roadway widening of a 2.25-mile segment, from MD 108 to Linden Church Road.

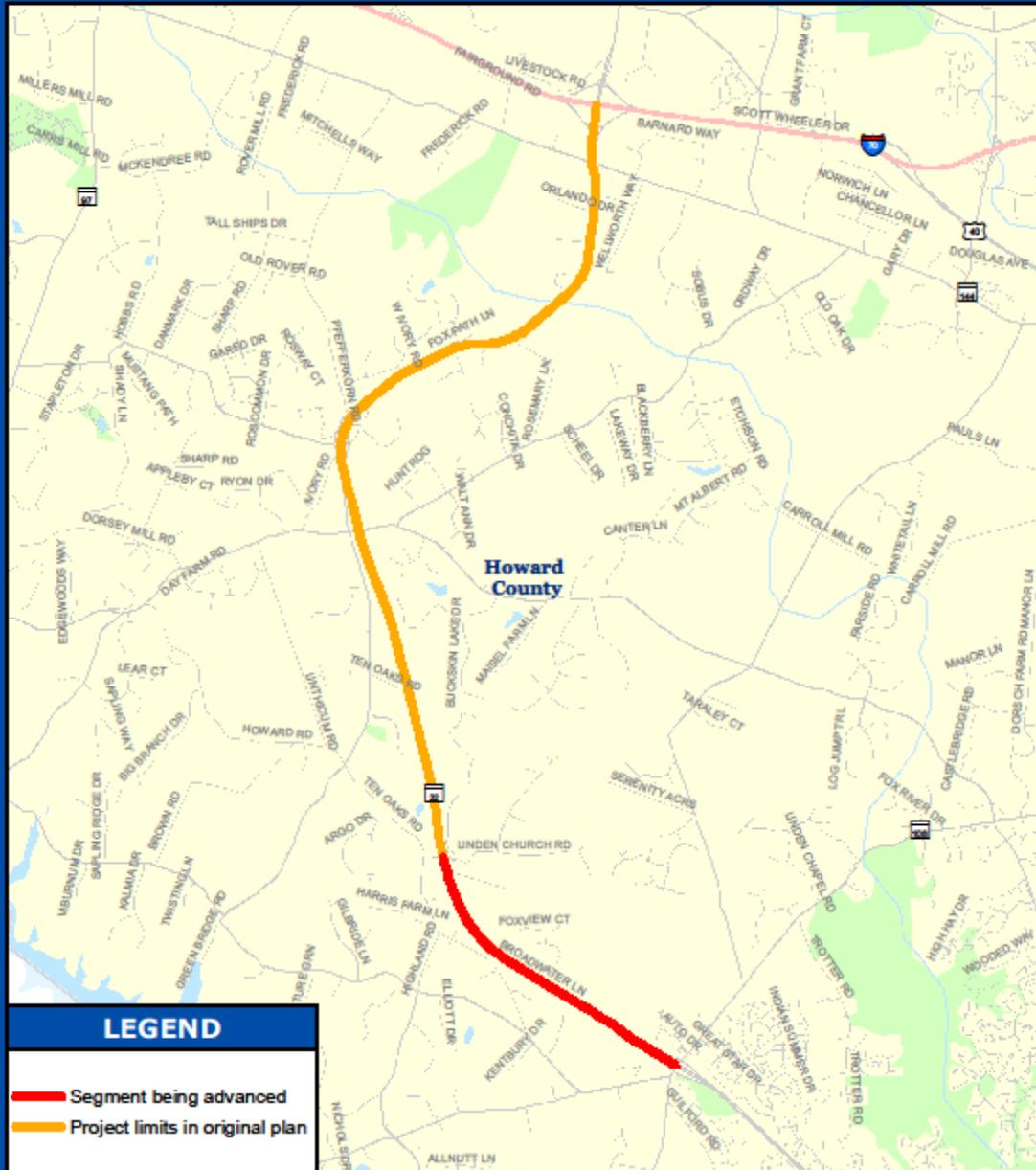
The table below shows details about this segment of the MD 32 project. “Year of expenditure” cost is an estimate that accounts for inflation from the current year (2016) to the expected year of operation.

Project	MD 32: MD 108 to I-70
Project Sponsor	State Highway Administration
Jurisdiction	Howard County
Project Limits	MD 108 to Linden Church Road (2.25 miles)
Description	Widen MD 32 in both directions, from two to four lanes (four-lane cross section), per the Final Environmental Impact Statement Preferred Alternative, to provide an access-controlled, divided highway with a 34-foot median.
Expected Year of Operation	2020 (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	\$33 million (year of expenditure) – SHA expects to use only state and local funding to construct this segment of MD 32.
Justification	This project will reduce congestion, enhance connectivity for daily life, and improve operations and safety on this segment of MD 32.

The map on the following page shows the location of the project. Following the map is a description of the TIP amendment.

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Amendment to MD 32: MD 108 to I-70 Widening



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Prepared by
Transportation Planning Division
Projected Coordinate System - NAD 1983 State Plane (ft)
Data Source - BMC, © NAVTEQ 2015, TIGER/Line®
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0 1 Miles

MD 32: MD 108 to Linden Church Road

TIP ID	66-1602-41	Year of Operation	2020
Agency	SHA	Project Type	Roadway widening
Project Category	Highway Capacity	Functional Class	Other Principal Arterial
Conformity Status	Not Exempt	Physical Data	2 to 4 lanes, 2.25 miles
CIP or CTP ID(s)	HO1411	Est. Total Cost	\$33,174,000

Description:

This project will widen MD 32 in both directions, from two lanes to a four lane divided roadway, from MD 108 to Linden Church Road. Howard County is contributing \$16.5 million in funding for this project.

This project is segment 1 of the MD 32: MD 108 to I-70 Corridor project that has TIP Reference #66-1405-41.

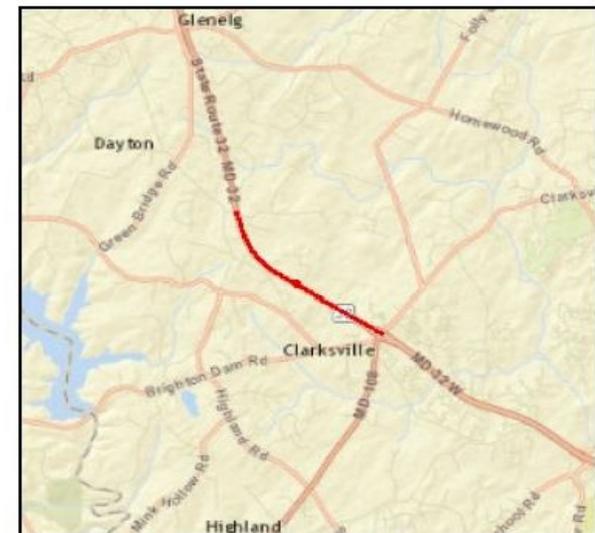
Justification:

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.

Amendment: This amendment adds a new project to the TIP utilizing state funds. The project adds preliminary engineering funds in the amounts of \$1.5 million in FY 2016 and \$800,000 in FY 2017. The project also adds construction funds in the amounts of \$4.05 million in FY 2017, \$11.27 million in FY 2018, and \$14.666 million in FY 2019. The total amount of funding is \$32.286 million. Howard County is contributing \$16.5 million to the construction phase of this project, which is included in the project totals.

Connection to Long-Range Transportation Planning Goals:

- 1.C Improve System Safety -- Eliminate hazardous or substandard conditions.
- 4. Increase Mobility
- 7.E Promote Prosperity and Economic Opportunity -- Improve access to existing communities and regional generators of economic activity.





SHA

2016 - 2019 Transportation Improvement Program

Highway Capacity

MD 32: MD 108 to Linden Church Road

(Funding in Thousands)

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

Phase	FY 2016 Federal Funds	FY 2016 Matching Funds	FY 2017 Federal Funds	FY 2017 Matching Funds	FY 2018 Federal Funds	FY 2018 Matching Funds	FY 2019 Federal Funds	FY 2019 Matching Funds	Total Four-Year Funding Request
CON	\$0	\$0	\$0	\$4,050	\$0	\$11,270	\$0	\$14,666	\$29,986
OTH	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PE	\$0	\$1,500	\$0	\$800	\$0	\$0	\$0	\$0	\$2,300
PP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ROW	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$0	\$1,500	\$0	\$4,850	\$0	\$11,270	\$0	\$14,666	\$32,286
Total	\$0	\$1,500	\$0	\$4,850	\$0	\$11,270	\$0	\$14,666	\$32,286

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PROCESS REQUIRED FOR AMENDING MAXIMIZE2040

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. As noted, SHA expects to use only state and local funding to construct this project. Most of these funds will be applied within the time frame (2016-2019) covered by the current TIP, and the BRTB has identified the sources of committed funds in the TIP. Within this context, the BRTB has found **the proposed amendment is in compliance with the fiscal constraint requirement for both *Maximize2040* and the *Amended 2016-2019 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 it has been more than twenty years since the EPA determined the Baltimore City Central Business District (CBD) attained the CO NAAQS. This attainment determination occurred on December 15, 1995. The second maintenance plan for CO was in place until December 15, 2015. The CO winter daily emissions are being included here for informational purposes only.

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Federal law requires that the MPO 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: MD 108 to Linden Church Road 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 2020. 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 2016-2019 Transportation Improvement Program and amended Maximize2040* does not worsen the region's air quality or delay the timely attainment of national ambient air quality standards.

In order to determine conformity to air quality improvement objectives delineated in the state air quality plan, 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 amended 2016-2019 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 the amended TIP and amended *Maximize2040* are below established mobile source budgets for all affected horizon years. Tables 1 through 3 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 *Amended 2016-2019 TIP*. These 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

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budgets are highlighted. Due to the timing of this conformity determination and a potential adequacy determination of the 2012 Ozone rate of progress (ROP) budgets, two different NO_x and VOC budgets are shown in Table 1. 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 with MD 32: MD 108 to Linden Church Road project in 2025**

Network-Based Analysis Ozone Precursor Mobile Source Emissions
(average summer weekday, tons/day)

	Implementation		Motor Vehicle Emissions Budgets ¹		Motor Vehicle Emissions Budgets ²	
	VOC	NO _x	VOC	NO _x	VOC	NO _x
2017	26.5	50.7	41.2	106.8	40.2	93.5
2025	18.2	26.0	41.2	106.8	40.2	93.5
2035	12.0	18.2	41.2	106.8	40.2	93.5
2040	11.6	18.2	41.2	106.8	40.2	93.5

¹ 2008 Reasonable Further Progress (RFP) Budget SIP for 8-hour Ozone (Determined “adequate” as published on March 27, 2009.)

² 2012 Rate of Progress (ROP) Budgets, Baltimore Serious Area Nonattainment SIP for 8-hour Ozone (EPA Adequacy Determination Date TBD)

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Table 2

Regional Emissions Analysis Results for **Maximize2040 with MD 32: MD 108 to Linden Church Road
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	887	19,294	1,218.60	29,892.01
2025	540	10,043	1,051.39	21,594.96
2035	448	7,742	1,051.39	21,594.96
2040	441	7,344	1,051.39	21,594.96

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

Table 3

Regional Emissions Analysis Results for **Maximize2040 with MD 32: MD 108 to Linden Church Road
project in 2025**

Network-Based Analysis CO Mobile Source Emissions
(average winter weekday, tons/day)

	Implementation	Motor Vehicle Emissions Budgets ¹
	CO	CO
2017	381.0	1689.8
2025	271.0	1689.8
2035	197.1	1689.8
2040	194.9	1689.8

¹ 2003 Carbon Monoxide Maintenance SIP for the Baltimore Attainment Area

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PUBLIC COMMENT OPPORTUNITIES

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

PUBLIC REVIEW / COMMENT PERIOD

A 30-day review and comment period for the enclosed plan amendment, the 2016-2019 Transportation Improvement Program (TIP) amendment, and Conformity Determination will begin on Friday, March 4 and end on Friday, April 8, 2016. See Appendix B for a summary of public comments and BRTB responses (when available).

The BRTB will meet on Tuesday, April 26 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 *Amended 2016-2019 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. All meeting locations are ADA accessible for people with disabilities.

<i>Date and Time</i>	<i>Location</i>	<i>Access by Transit</i>
Tuesday, March 22 from 6:30 to 8 p.m.	Dayton Oaks Elementary School (Cafeteria) 4691 Ten Oaks Rd Dayton, MD 21036	-n/a-
Wednesday, April 6 from 4:30 to 5:30 p.m.	Baltimore Metropolitan Council 1500 Whetstone Way, Suite 300 Baltimore, MD 21230	MTA Route 1 Charm City Circulator